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THE NEW CHILDHOOD*

RAY LYMAN WILBUR, M.D.

WASHINGTON, D. C.

Civilization is beginning to sense that its future lies with the child and not with the machinery produced by science. In the past the child has been rather taken for granted. Much of the thinking has been along military lines. The principal value of the child to dictators, kings and heads of governments has been that of a prospective soldier. The material structure of civilization has been assumed to have permanent qualities and the ability to withstand the disorder, shock and wreck of war. The history of the human race shows an increase in population in spite of great famines, disasters and wars and the natural tendency of the human being has been to increase in numbers as long as sustenance was available. The interchange of goods and the improvements in agriculture have placed the food supply of the world open to all. We can see ahead more areas conquered, more people born and an extension of the present interdependent economic system. This generation, though, has discovered that, just as other civilizations have gone down in the centuries preceding, so our civilization can go down if the forces of destruction are turned loose with all the available knowledge of chemistry and physics.

This is a strange world, and one of the strangest things in it is the high conception that man has of himself and of his relations to it. Edmund Noble[1] states that "a recent calculation showed that the total population of the earth could find comfortable standing room in one of the London parks, and that around the whole of humanity thus assembled a bicyclist could make his leisurely way in from three to four hours."

Our durability in a biologic sense depends primarily on our attitude toward childhood. We are more conscious of the importance of maintaining life. There is a growing conception of the fact that the one great possession of the human race is its germ plasm and that on this possession the whole of the future depends. The only thing the human race possesses is life. In many ways it is the only real thing we control and yet our hold on it is fleeting. The recognition of its value is dawning on us and childhood is assuming a new importance.

NEW CONCEPTIONS OF CHILDHOOD

Conscious as we have always been of our obvious enemies, it is only within the last few decades that we have become aware of the minute foes of the human race and particularly of their significance in childhood. We have discovered that the body of the child from the date of its origin may be the receptacle in which will grow organisms bringing about what is called disease. Some of these organisms may even destroy the germ plasm itself; others may produce substances circulating in the blood which may lead to the destruction of life. With these solid fact discoveries there has been a disappearance in a considerable percentage of us of many old tabus, but many of our actions and reactions are still based on a mixture of fact and fancy. The thing called medicine still has in it a large blend of magic. Science, through the ingenuity of countless workers, following along the trails blazed by Pasteur and others, has cleared in part the path of the child. It was formerly taken for granted that every child would have to pass through a series of illnesses during the process of attaining maturity. That there was wastage in this process was evident, but until vaccination against smallpox was devised no clear-cut scientific conception of the possibilities of protecting the body of the child was brought into the thinking of mankind.

These striking changes in thought have come about along with remarkable modifications in our environment. Some of these have come through accident and some through the deliberate collective action of society. There is no more striking chapter in modern community living than that of public health. Knowledge interpreted through action is the basis for our ability to live in large numbers in great cities. It seems a simple thing to add a certain amount of chlorine to the drinking water of a population, but that is one of the things that has made the building up of a city like Chicago possible.

ENVIRONMENTAL CHANGES

We can perhaps sense some of the changes that have taken place here in America by turning back for a hundred years to the observations of an English traveler, Mrs. Trollope. It is worth while to do this since we sometimes forget the difficulties which the pioneers of our country experienced in cutting down the forests and conquering the prairies. A glimpse of the way physicians determined on a location for their work is caught in this observation:

> As the heat of the weather increased, we heard of much sickness around us. The city is full of physicians, and they were all to be seen driving about in their cabs at a very alarming rate. One of these gentlemen told us that when a medical man intended settling in a new situation he always, if he knew his business, walked through the streets at night before he decided. If he saw the dismal twinkle of the watch-light from many windows, he might be sure that disease was busy, and that the "location" might suit him well. Judging by this criterion, Cincinnati was far from healthy; I began to fear for our health, and determined to leave the city; but for a

* Read at the dedication of the new medical buildings of the State University of Iowa College of Medicine, Nov. 16, 1928.

1. Noble, Edmund: Purposive Evolution, p. 106.

considerable time I found it impossible to procure a dwelling out of it.[2]

Since childhood depends on womanhood it is worth while, too, to see what Mrs. Trollope had to say of the position of American womanhood a century ago.

But if the condition of the labourer [she says] be not superior to that of the English peasant, that of his wife and daughters is incomparably worse. It is they who are indeed the slaves of the soil. One has but to look at the wife of an American cottager, and ask her age, to be convinced that the life she leads is one of hardship, privation, and labour. It is rare to see a woman in this station who has reached the age of 30 without losing every trace of youth and beauty. You continually see women with infants on their knee, that you feel sure are their grandchildren, till some convincing proof of the contrary is displayed. Even the young girls, though often with lovely features, look pale, thin, and haggard. I do not remember to have seen in any single instance among the poor a specimen of the plump, rosy, laughing physiognomy so common among our cottage girls. The horror of domestic service, which the reality of slavery, and the fable of equality, have generated, excludes the young women from that sure and most comfortable resource of decent English girls; and the consequence is, that with a most irreverend freedom of manner to the parents, the daughters are, to the full extent of the word, domestic slaves. This condition, which no periodical merry-making, no village *fête*, ever occurs to cheer, is only changed for the still sadder burdens of a teeming wife. They marry very young; in fact, in no rank of life do you meet with young women in that delightful period of existence between childhood and marriage, wherein, if only tolerably well spent, so much useful information is gained, and the character takes a sufficient degree of firmness to support with dignity the more important parts of wife and mother. The slender, childish thing, without vigour of mind or body, is made to stem a sea of troubles that dims her young eye and makes her cheek grow pale, even before nature has given it the last beautiful finish of the full-grown woman.[3]

The gradual spread of the pioneer across our great continent brought many hardships and new diseases in its train. But with new means of transportation and the development of agriculture and industry, together with the spread of general education, there has come a complete change in the immediate environmental conditions of the American child. During the past twenty years the human family in America has been put on wheels. Every one moves about more than has been the case in the whole history of mankind. One wonders sometimes whether the invention of the wheel in prehistoric days was not a mistake. This constant movement and change has had a marked effect on family life and on the training of the child. The grouping in cities has compelled the creation of substitutes for the normal child life of the farm and the village. Many of the natural conditions which developed the child have disappeared. Certainly no one could claim that the city playground is apt to be as satisfactory as the woods near the river, with the trees, birds and insects, and the old swimming hole. The rather simple unorganized life grouped around the family and the small community has now been brought into the intricate organization of the schools, and such voluntary organizations as the Boy and Girl Scouts and the Camp Fire Girls. Universal education as we know it in America has brought with it a change in habits. The natural outdoor life of youth has been changed over to a more sedentary one. The number of exposures to others who may have in their bodies the organisms causing disease has been greatly multiplied. Think of the problems of the boy or girl born into this new environment who must, almost from babyhood, accept the discipline of the schoolroom, the discipline of organized community life and later the discipline of business, if he is to succeed. All of this, unless properly guided and guarded, may have a profound effect on the stability of his nervous system and the length of time in which his body will remain active.

2. Mrs. Trollope: Domestic Manners of the Americans **1**: 17.
3. Mrs. Trollope: Domestic Manners of the Americans **1**: 165-166.

PREVENTION: CHANGE IN DISEASE CONCEPTS

Along with these complicated changes in the domain of growth and health there has been developed for the protection of the body the series of processes known as prevention of disease. This has been due to our change in disease concepts. As long as disease was looked on as inevitable there seemed nothing to do but to accept it. When each disease or disease condition was supposed to have a special name, and when the name was once properly given by the diagnostician, there was a specific cure available in some herb or mineral of nature, the control of illness seemed simple. But with our present conception of medicine based on pathology, in which we judge disease by the scars and injuries left in the tissues of the body itself, and our conception of disease as largely based on a failure of function and the degree of it present, we approach the question of treatment and control from new angles. The present test of the success of modern preventive medicine is the prolongation of life that is brought about. The saving of babies through proper nutrition and protection from the microscopic organisms of disease is the basis of this advance. We now think of medicine more in terms of prevention. We think of disease in terms of infection, and we think in terms of treating the infections and destroying the infecting agent or neutralizing its poisons rather than treating the symptoms produced in the body through the infections present. The problem is to keep those germs from going from one human receptacle to the next or to make the human body immune to the growth of these organisms.

The conquest of diphtheria is one of the great romances. I can remember in my boyhood days here in Iowa the dread of "croup." It was in the mind of parents all the time and it spread over to the children. A little hoarseness was a source of deep concern. My first service as a young medical student in the care of the sick was to hold a child undergoing intubation for closure of the larynx from the growth of a diphtheritic membrane. I can still feel the convulsive struggles of the child, see the black tinged lips and hear the wheezing, gasping breath. The relief when the air passed through the tube into the lungs and the final recovery from the use of serum stand for me today as symbolic of what modern medicine can and does do. To think that this great fear and this terrible menace to child life has been largely removed through Behring's work in assisting horses to produce a remarkable substance which could be transferred from their blood over to that of children and spoil the soil, so to speak, for the growth of the diphtheria organism is to think of but one of the many advances made in the prevention and treatment of disease.

Discovery is the first thing required. We must know just what we are trying to do. Discovery depends on research, and research on the laboratory. The development of laboratories and of men and women to work in them is the real basis for that which we are able to do in the matter of prevention. Not many miles from here, workers have developed methods for the control of scarlet fever. The great hope for the new childhood

is that there will be a continuation of this search for the unknown and for new methods of controlling the known causes of disease.

Along with prevention there also is the necessity of controlling defects. The human body rarely attains perfection. It contains some imperfect structures but it has large factors of safety. Deviations from the normal in body and mind are frequent. The examination of children shows that there is a high percentage of those who must overcome handicaps in the competitive life before them. For instance, in New York the following data were obtained:

> In 1917, 247,735 children were examined by school physicians; 86,311 of these were found to suffer from various defects; 104,587 were found to suffer from defective teeth exclusively. This makes a total of 190,898, certainly a very high percentage of the children examined. The cost of health supervision of the children in the schools of New York was 42 cents per child in 1915. This is a very small amount of the total per capita cost of educating a child, which is $40 per year.[4]

Some of the handicaps come through the processes of heredity and more are due to the harm inflicted by disease or accident. When myriads of poison-forming organisms grow in a child's body, and the great fight is carried on between its defenses and the invaders, the result, if not fatal, may be the leaving of permanent scars. As the years go by, if infection follows infection, our bodies often show profound effects not unlike those seen on a battlefield. To minimize these dangers, to protect the body, is a prime function of modern civilization.

RELATIONSHIP OF SOCIETY TO PROTECTION OF CHILDHOOD

As one looks over the nations and peoples of the world, the importance of childhood seems to bear a direct relationship to what is now considered civilization. While even here in America we have had to struggle to take the young child out of the factory and to protect children in industry from abnormal and long periods of work, we find that in certain overpopulated countries the exploitation of the child among the poor is considered reasonable and normal. Society has definitely concerned itself with the home and with protection of the family. Complicated legislative machinery has been devised to keep marriage sacred and to protect the rights of the child. The great school system has been the most potent factor in our advance, but it has taken us decades to be willing to admit in our school system that variability in the mental structure of children which we have always admitted on the physical side. The schools are beginning to personalize the work of the individual. It is being recognized that each individual must, if possible, become a self-sustained unit. His physical defects must be relieved and, unless he is an idiot, the nervous system he has must be developed along suitable lines leading to capacity for self-support, comfort and happiness. It is impossible in the home or the school or the factory or the street to think now of childhood and of its advance without thinking in terms of modern medicine.

There is no substitute for this point of view, although emotions and prejudices may attempt to supply them. Our intellects tell us that we must use all the information we have if the child is to be given a fair opportunity. We have learned much that we know through the experimental method. The empiric procedures of the past based on more or less accurate observation have had to give way. As many know, from personal experience, grandma is out of date when it comes to feeding the baby. We now know why we do many things, instead of doing them because they have been done. This is the modern attitude of society.

4. Binder, R. M.: Health and Social Progress, p. 9.

THE PROTECTING ARM OF THE PHYSICIAN THROWN AROUND THE CHILD

Society protects its future in the child by throwing around it the arm of the scientific physician. The physician is the one in society on whom depends the application to the protection of childhood of all that is known, and consequently of everything that is really worth while in civilization. The physician has always been kind, sympathetic and helpful, but in the past he has often been ignorant, blundering and ineffective. Until science came to his aid, he fought blindfolded countless unknown enemies. With science as his aid, he faces enemies of known qualities. It is amazing to realize how intimately we know the habits and actions of many organisms so small that millions of them could be balanced on a needle. The proboscis of a certain mosquito injects us with malaria; another puts yellow fever organisms into our blood. Biologists study the life habits of the mosquitoes; they strike them at their weakest point, and with their disappearance go both malaria and yellow fever.

The physician in organized society protects not only the individual but society itself. The victories of Napoleon were due to the physical qualities as well as the bravery of his soldiers. Napoleon was one of the first to realize what medical attention could do for an army. Now no general would think of entering the contest of war without having his troops given the benefit of everything that medicine has to offer. In organized civilized society there is a widespread variation in the amount that the physician is able to do or is allowed to do in protecting the child. Apparently only a percentage of the human race have the scientific point of view even in literate countries. Only a certain number can face the hard cold facts. In all there is some desire for magical results. One may still see iron rings worn to avoid rheumatism. The "patent medicine" vender still spends his winters on his yacht. With dangers removed, nonsense begins to parade as sense. A long "life line" in the palm of the hand still is a measuring stick for the foolish. There are great dangers associated with our present form of government in which a majority may determine action. These dangers can be mitigated if there is education, so that ideas coming down from the days of savagery cannot gain the ascendency at the polls. A test of the degree of civilization in a community is its willingness to offer opportunity for the education of those who will be the new recruits in the fields of science and of medical service.

Today in this institution now entering full-fledged into the field of medical education and medical service we have an illustration of what organized society can do in protecting its future and its happiness. We see in this great university, and in its relationships through taxation to every citizen and to every acre of land in the state and to the private gift of wise friends, the harvest coming from thought directed to the protection of the future. We see too how organized society is able through careful study and sound legislation to assist society in meeting its future needs. The activities of a state can, when guided by science and by experience, develop in the field of medicine and its associated branches those trained men and women who are necessary in the protection of the child.

There is much discussion as to the procedures which should be adopted in medical education. For all practical purposes these concern simply the machinery with which it is hoped to get results. The test of a medical education is the physician it turns out. We have lived through a period of much theorizing as to the way in which this should be done. We have now had a chance to study various procedures in actual practice. We have found out that there is no one royal road—that uniformity in the methods of handling the faculty or in the training of all physicians in all parts of the country would be a calamity. Medicine is so many-sided that it can profit by having in it men trained in many fields. It offers the most diverse opportunities for men and women of diverse training. Gradually the fundamentals of medical education are becoming clear. A sane balance is being worked out between the laboratory and clinical science. The greatest problem now is to develop a proper philosophy and a social understanding among those who are to practice medicine. The new economic organization of the world must be met by new methods.

In this institution, in which private funds and the state have joined forces, one may hope that medical students will be developed who can help to solve the great problem of the distribution of medical service to all elements of the population and particularly to the child. It is clear that in practically every service of the physician he not only is striving to help the patient but also is rendering a service or a disservice to the public by the things he does or does not do. There will be no sudden solution found in this field. As Sir Arthur Newsholme [5] said at Johns Hopkins University:

> A complete service, adequate to the needs of the community, cannot be secured by a session's legislation. It must grow as the result of steady advance. The motto in growth might well be, "First things first." What are the medical services which are provided too sparsely at the present time and for which the masses of the population cannot afford individually to pay, except possibly to a fractional extent? There can be no doubt as to the answer. What is most urgently needed is the provision of skilled hospital attendance for every patient who can be more satisfactorily treated in hospital than at home. Next to this comes the provision of gratuitous medical services (e. g., maternity and infant consultations, eye, throat, ear, skin and venereal diseases, tuberculosis, x-ray departments) preferably linked around a hospital, where patients can be sent by private practitioners for an expert opinion. And as important as either of the preceding desiderata is the provision of a complete nursing service, on which each private practitioner can call for assistance as required, payment, if any is exacted, being on the easiest possible conditions, and not made compulsory.

We cannot visualize the future of the American people. In one generation there has been such a spread of facilities and funds as the world has never seen before. We can, though, bear in mind that, no matter what material assets may be acquired, in the long run the health of the children in the United States is fundamental to its permanence. We visualize the physician as the arm of society protecting childhood. In this medical school and hospital we see the expression of a great commonwealth and of private citizens working at their very best. With such an institution, with the excellent faculty available and with the continued support of the citizens of Iowa, one can feel confident that on this dedication day we are launching under full canvas one of the most significant and vital forces leading to the health, happiness and security of the people.

5. Newsholme, Arthur: Public Health and Insurance, American Addresses, pp. 97-98.

TREATMENT OF VARICOSE VEINS OF THE LEGS

CONSIDERATIONS OF SAFETY

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There are many thoughtful clinicians who are waiting for further evidence before they will come to a decision as to the best method of treating varicose veins of the leg. Considerations of safety are paramount. In the meantime, patients are needing help, and they are obtaining it at times under dangerous circumstances. It is time that questions of safety be settled, and settled as rapidly as is consistent with thorough investigation.

EXCISION AND INJECTION

The voluminous literature that has appeared has not given a firm basis for a settlement of these problems of safety. Even now physicians are trying to choose between the method of operative excision and the method of injection without knowing the exact risk assumed by either.

The risk in the excision method has never been determined in a large series; reference has at times been made to the work of Aage Berntsen,[1] which showed the rather high incidence of 7.2 per cent of embolism after operation. In most of these embolic cases the infarcts were survived, making a mortality of 0.7 per cent. But this was in a series of only 376 operations, and the opportunities for error in reckoning mortality rates in so small a series are well known.

Accordingly, I sent a questionnaire to most of the large American hospitals, covering the following points:

1. How many operations for varicose veins of the legs have been performed in your hospital? Please make this total over as long a period as possible in order that as large a series as possible may be reported.
2. Of this number, how many cases of fatal embolism followed operation?
3. How many of these patients died from causes other than embolism during a twenty-one day postoperative period?

A great deal of work was done by the historians and nearly all replied. Replies of thirty-four large hospitals showed a total of 4,607 cases surveyed. The study showed the necessity of reporting on a large series. For example: Massachusetts General, in a series of 887 operations performed since January, 1872, showed not a single death. Another hospital of high grade, with an excellent staff, in a series of thirty cases in the past two years reported two deaths from embolism following operation on varicose veins of the leg. In the total 4,607 cases, there were eight deaths accredited to embolism and ten others due to unknown causes. This large series therefore shows that the operative risk in the excision method is one in 250, or 0.4 per cent.

This is not a high mortality rate, but it must be remembered that mortalities after operation, usually due to embolism, occur every now and then without attracting the attention that would be awakened if they followed a new method.

The mortality involved in the injection method cannot be determined with the same exactness, because the treatment is ambulatory; and instead of depending on hospital statistics which show all deaths, one must depend on the communications of such workers as may be inclined to make reports. A survey that we were

1. Berntsen, Aage: Acta chir. Scandinav. 62: 61 (Jan.) 1927.

making of all cases treated by injection with the total number of cases reported was anticipated in an article by McPheeters.[2] He reported a total of approximately 53,000 cases treated.

Discussions of the fatal cases following the injection method have appeared repeatedly in the literature,[3] the most recent being that in the article by McPheeters just mentioned. To date, eleven fatal cases have been reported. All cases must be included, even those in which the method was not intrinsically to blame, because this was done in the case of the hospital statistics for deaths following the excision method. A death from disease of the coronary artery after an injection, even though not caused by the injection, must be included, just as it would have been in the hospital statistics of deaths after operation. Otherwise, no comparison of the mortality rates of the two methods can be made.

In addition, two cases not appearing in print should be mentioned. One is reported in a communication from Professor Linser of Tübingen in answer to our questionnaire:

> In an elderly missionary from the tropics with a chronic lymphangitis and lymphadenitis, a fatal pulmonary inflammation suddenly occurred fourteen days after an injection of sodium chloride solution in which there was a good thrombosis of the veins. The necropsy showed that, proximal to the old thrombus caused by the injection of sodium chloride solution in the internal saphenous, an entirely fresh clot not adherent to the wall had been loosened and lodged in the lungs. The thrombus had not originated at the site of the injection and had occurred in an organism weakened by tropical disease. It would be well in the future to be careful in persons with other signs of inflammation, and more especially to cure the latter before going on to the obliteration of the veins.

The other case occurred in an American clinic. I had no opportunity to observe this case, but as nearly as can be ascertained from one of the physicians in attendance, and from the family, the facts are as follows:

> G. N., a man, aged about 54, received an injection of sodium salicylate in the right leg, March 28, 1928. One month after the injection, he developed a bacterial phlebitis in the other leg; that is, in the leg which had not been injected. Two weeks later, on April 11, a bacterial phlebitis appeared also in the injected leg. The patient received treatment for the phlebitis at the hands of an irregular practitioner who treated the phlebitis by allowing the patient to get up and walk, by giving hot baths, and by massage. May 13, the patient, while walking to the bath, died suddenly two hours after the onset of an attack of dyspnea. Necropsy was not performed.

The blame for these fatalities cannot all be placed on the injection. A study of the reports shows that some of them would have occurred had the veins never been injected, and, in such large numbers of cases, were to be expected aside from the injections.

COMMENT

A comparison of these two mortality rates, one in 250 after excision, and one in 5,000 after injection, must be made critically.

A critical evaluation of the factors involved shows that the comparative risk by the two methods is probably even more favorable to the injection method than these figures would indicate.

One factor is that, in the cases treated by injection, all deaths within three or four months after injection were included and seven of the eleven deaths occurred after the twenty-first day, whereas in the reports on results after excision, only deaths during a twenty-one day postoperative period in the hospital were included.

Another factor is that while there has been included in the mortality by injections all cases ever known to the profession, in the mortality by operative excision only such cases were included as were reported by the hospitals questioned. As a matter of fact, I know of three cases of death by embolism after excision, never reported, as well as four others in the literature. None of these seven cases were included in calculating the mortality rate by excision. It should be evident that I am trying to give the excision method every possible advantage in the comparison. Even so, the mortality rates favor the injection method overwhelmingly.

RECURRENCES

A study of thirty-one cases treated by operative excision which Homans [4] followed up showed that the treatment in five was a complete failure and in eight others was only partially successful. This report includes one death from pulmonary embolism.

The Cook County Hospital report of 1927 [5] stated that there was no improvement in eleven out of fifty cases treated by excision.

Berntsen [6] found no improvement at all in 20 per cent of 351 patients on whom he operated. Two of his patients died of embolism.

Jeannel,[7] in a series of 1,019 patients, did not obtain any cure by operation in more than 33 per cent.

Kovacs [8] observed recurrences in twenty-five of forty-one cases followed for from two to five years, treated by resection of the saphenous vein alone, and seven failures in sixty-two cases treated by more radical excision. In addition, he reported one death from embolism after operation. This series as a whole shows about 30 per cent of failure after operative excision in approximately 1,400 patients treated by different operators.

After the injection method, the percentage of recurrence is much less. In reply to a questionnaire, Gaugier, working with Sicard, reports that in 15,000 cases recurrences appeared at the site of injection in 1 per cent and new varices at other sites in 4 per cent. Linser replies that in his 15,000 cases, after a three-year period, there was no improvement in from 5 to 7 per cent. Delater, in 890 cases, finds that after three years or longer there were recurrences in 5 per cent. Nobl replies that in one fifth of his 3,900 cases followed for three years or more, there was no improvement in from 5 to 7 per cent. In a published article, Forestier [9] reported the highest rate of recurrence as 15 per cent. The average is nearly 6 per cent.

The proportion of recurrences or of the appearance of new varices after injection is therefore only one sixth as great as after excision, with a resulting lessening of the risk incurred by repeated operation.

THE VALUE OF CONSECUTIVE SERIES

A factor apparently less favorable to the injection method is the fact that the mortality rate by operation was taken from hospital statistics wherein it is known that all deaths were duly reported. Unfortunately there is not the same certainty in the reports as to the injection method, for it might seem likely that, whereas the clinicians having success would be eager to report their

2. McPheeters, H. O., and Rice, C. O.: Varicose Veins, J. A. M. A. **91**: 1090 (Oct. 13) 1928.
3. Vigyázó, Julius: Zentralbl. f. Chir. **55**: 70 (Jan. 14) 1928.
4. Homans: J. Indust. Hyg. **1**: 567 (April) 1920.
5. Report of Cook County Hospital for 1927.
6. Berntsen, Aage: Nord. med. Ark. **62**: 80, 1927.
7. Jeannel, quoted by Berntsen (footnote 6).
8. Kovacs: Deutsche med. Wchnschr., 1924, number 27, p. 900.
9. Forestier, Jacques: Varices of the Lower Limbs, J. A. M. A. **90**: 1932 (June 16) 1928.

cases, other men who had had mortalities would be less likely to send in reports of their disasters. However, the force of this criticism is blunted by the fact that in the 53,000 cases there are some very large consecutive series. For example, in reply to the questionnaire, Sicard and Gaugier report that in 120,000 injections in 15,000 consecutive cases, they have never had a mortality. Linser in his 50,000 injections in 15,000 cases has had only the one mortality mentioned. Delater had none in his 890 cases. In the literature, Genevrier [10] reported 4,000 cases, Douthwaite,[11] 2,000 cases, and Meisen,[12] 2,000 cases without a single mortality. It is not possible to speak in such exact percentages of the risk by injection as of the risk by excision, but because such large consecutive case series without a mortality are reported by the European pioneers, I believe that the risk is at least as low as the figure stated.

SAFETY CONSIDERATIONS IN TECHNIC

Assuming that the injection method is the safer, problems of safety relative to choice of cases and technic remain. The advantages of the injection method have been so obvious that it is being taken up with a recklessness that demands warnings.

Direct Embolism.—By this term, I have reference to embolism due to direct separation of a thrombus without any bacterial infection occurring between the time of the injection and the embolism. Five such cases in 53,000 have been reported. In the prevention of such cases, the problem of dosage is essential.

Overdosage.—Years ago, Sicard warned against the use of larger quantities of sodium salicylate solution than 5 or 10 cc. In the use of sodium chloride solution, Linser [13] also advised the use of only 5 or 10 cc. In recent years, Meisen,[14] who uses a mixture of the two solutions, tried to increase the dose to 25 cc. This was promptly followed by two cases with small emboli (nonfatal). Meisen calls 25 cc. the infarct producing dose, quoting, I believe, from Sicard. The first case of embolism ever reported [15] was a fatal one in which the prescribed dosage of 5 cc. was multiplied 1,600 per cent by the use of 80 cc. of Pregl's solution. It is with concern that one hears of men publishing their reports—and their accidents—following the use of 50, 60 and 90 cc. at one sitting. It is noteworthy that four of these five cases of direct embolism are known to have occurred after the use of these dangerously large doses.

In the use of the quinine and urethane solution made popular by Genevrier and Douthwaite, 2 cc. has been recommended as a maximum. Less is advisable. I have seen as little as 0.5 cc. kill a 7½ pound (3.4 Kg.) rabbit instantly. If used, it must be injected slowly.

Choice of Solution.—Preliminary work which I have done with injections into the veins of rabbits of different solutions, followed by study of histologic sections, indicated that the stronger solutions of sodium salicylate created the most firmly adherent thrombus. This work is incomplete and must be carried on for a long time before I can feel justified in presenting a conclusion. It is noteworthy that all five of these cases of direct embolism occurred after the use of apparently less irritating solutions, such as Pregl's solution, dextrose or sodium chloride solution.

Immediate Injection or Preliminary Ligation?—Two other problems follow in which I feel that there is legitimate room for difference of opinion. It may be remembered that Tavel in 1904 ligated the veins before injecting, in order to prevent embolism. Schiassi, ever since 1908, has been working along the same line and reports [16] 2,800 cases so treated in the last twenty years without a single case of embolism or other disaster. Unger, Streissler, Totheisen, Schanz, and Moschowitz [17] also ligate before injection. My opinion concurs with that of the majority of workers in opposing this measure. The Trendelenburg operation for varicose veins was a high ligation of the saphenous vein. To ligate above and inject below is to combine the injection method with the Trendelenburg operation. Berntsen [18] found that after the Trendelenburg operation, in eighty-three cases, seven cases of embolism occurred with one fatality. Vigyázó [3] cites Reichnell as reporting a mortality after the Trendelenburg operation of from 0.5 to 1 per cent. This is a higher incidence of embolism than in simple injection. Therefore, a high ligation before injection defeats its own purpose. It increases rather than lessens any danger of embolism because it adds to the infinitesimal risk of embolism following injection the appreciable risk of embolism following the Trendelenburg operation.

Ambulatory Method or Hospital Confinement?—One more problem in the prevention of direct embolism concerns the confining of patients to bed after injection. Is there more safety if the patient is hospitalized and kept in bed? Experimental evidence points strongly to a negative answer. The answer must be based on an understanding of the circulation in varicose veins.

Trendelenburg showed that in varicose veins the blood does not flow toward the heart but in an opposite direction toward the periphery. Jentzner [19] thought that he had confirmed this work when he injected strontium bromide into varicose veins, and showed under the fluoroscope that the blood, rendered opaque to x-rays by the strontium bromide, flowed toward the periphery. G. Magnus,[20] however, did further work with the injection of iodized oil, showing by fluoroscope that while in the upright position or on bending the leg 45 degrees, the blood flows to the periphery; in the recumbent position, the blood is either stationary or does flow toward the heart.

Sicard [21] and Forestier [9] had similar results after injecting iodized oil. When the limb was dependent, the flow was toward the feet, but in the horizontal position, the flow was centrad toward the heart and lungs. Therefore, if one is timid on the subject of thrombi being dislodged after an injection, the worst possible position for the patient is recumbency.

These fluoroscopic observations are in accordance with actual experience in emboli occurring naturally in varicose veins which have not been injected. These emboli never form while the patient is up on his feet—only when he is recumbent.

BACTERIAL PHLEBITIS

Emboli arising not from thrombi at the site of injection but from thrombi associated with an ascending bacterial phlebitis present a different problem. They

10. Genevrier, cited by Thornhill, Ronald: Practitioner **120**: 54 (Jan.) 1928.
11. Douthwaite: The Injection Treatment of Varicose Veins, London, Lewis & Co., 1928.
12. Meisen, U.: Acta chir. Scandinav. **60**: 435, 1926; Ugesk f. Læger **89**: 7 (Jan. 20) 1927; Nord. med. Ark. **62**: 18 (Jan.) 1927.
13. Linser, K.: München med. Wchnschr. **71**: 418 (March 28) 1924.
14. Meisen, V.: Nord. med. Ark. **62**: 30 (Jan.) 1927; Acta chir. Scandinav. **60**: 291-487, 1926.
15. Hohlbaum, J.: Zentralbl. f. Chir. **49**: 218 (Feb.) 1922.
16. Personal communication to the author.
17. Moschowitz: Zentralbl. f. Chir. **54**: 1732 (July 9) 1927.
18. Berntsen, Aage: Nord. med. Ark. **62**: 82, 1927.
19. Jentzner, quoted by Forestier (footnote 9).
20. Magnus, G.: Deutsche Ztschr. f. Chir. **162**: 71 (April) 1921.
21. Sicard, J. A.: Presse méd. **34**: 869 (June 2) 1926.

are very rare, causing fatality about once in 10,000 cases. I am not sure that any amount of care will ever bring physicians to the point where they can use the word "never" about an infection. It is certain that they can and should minimize the danger. No patient should be treated until a complete history has been taken and a physical examination, urinalysis, roentgenograms of doubtful teeth, and possibly a Wassermann test have been made. It is the part of doubtful wisdom to treat patients of advanced age. Not only are they more prone to embolic disturbances, but the resistance of their blood vessel walls to stray bacteria in the circulation is low. Higgins [22] found the risk mostly in aged persons.

Foci of infection as a distant source for bacterial invasion of the injected vein are a real problem: I fear that more harm than good will be done by the report of the experiments of Meisen [23] on animals. Meisen injected the veins of rabbits with sclerosing solutions and also, into other veins of the same animals, injected *Staphylococcus pyogenes-aureus* from a cow that died of puerperal pyemia. The rabbits died from pyemia with septic infarcts all over the body, except in the thrombi of the injected veins.

This experiment is likely to be misleading. Clinical evidence is abundant to show that in human beings the injected veins are a locus minoris resistentiae to metastatic infection. Five of the nine embolic deaths thus far reported were due to emboli secondary to bacterial phlebitis.

Just how far one can go in eliminating foci of infection is problematic. Vigyázó [3] reports on a patient who did very well until nine days after injection, when he had a severe pharyngitis. Thereupon phlebitis in the injected leg ensued from which the patient barely escaped with life after months of illness. I am not sure that this could have been prevented. In centers of congested population, one cannot guarantee that a patient will not have an acute pharyngeal infection. To demand that every patient have all his devitalized teeth and his tonsils removed before proceeding to the injection of his varicose veins would be quixotic.

One can, however, absolutely refuse to treat by injection such patients as give obvious evidence of grossly infected foci until they have been cleared up. It is better to turn away a few patients, and be safe, than to take chances. During an influenza epidemic, treatment should be discontinued. It should nearly always be refused to a patient who gives a recent history of phlebitis. I read with alarm the statement of a recent American writer: "Injection should not be done until after all tenderness and signs of phlebitis have disappeared." Much safer is the dictum of Forestier: [24] After a phlebitis, no injections for ten years. Just as important as the time element is the eradication of all possible foci of infection. In one of my cases, there was a history of phlebitis only six months before, associated with a hemoglobin of 50. Following tonsillectomy, the hemoglobin rose rapidly to 80. I considered this to be proof that the primary focus had been removed and did not hesitate to inject the veins. In the future, if there are further reports of bacterial phlebitis following injection, it is to be hoped that the reports will state the situation as to foci of infection before the injection. Otherwise, our knowledge of this problem cannot progress.

22. Higgins, T. T.: Lancet **1**: 1073 (May 26) 1928.
23. Meisen, U.: Nord. med. Ark. **62**: 35 (Jan.) 1927.
24. Forestier, Jacques: Unpublished notes.

Meisen,[25] who had some cases of bacterial phlebitis after injection, found that he could limit the process by immediate confinement to bed with the application of a circular adhesive strip around the limb above the upper limit of the phlebitis and a pelotte over the vein under the strip, with the constrictor tightened so as to be 1 cm. below the surface of the skin level. "These constricting bands are borne remarkably well." This technic may also be used in noninfected cases in which the main trunk of the saphenous vein over the femur is considerably dilated.

ULCERS

Many of the injection fluids, if allowed to escape to the outside of the vein, cause eschars which separate only after weeks and leave ulcers which may take months to heal. This is especially true of the sodium salicylate solutions and is their most serious disadvantage. These ulcers leave scars, and in one case resulted in a fatality due to infection.

They may be avoided by especial care in introducing the needle. Although the recumbent posture is preferable for the injection of very large veins in order that they may be empty and not dilute the injecting fluid, in the smaller veins, with a danger of getting out of the vein, it is preferable to have the patient standing. His weight should be on the leg to be injected, for this raises the intravenous pressure from 6 to 10 cm.[26] and thereby causes the vein to stand out. Veins around the malleoli and on the foot should not be injected, for, in such locations, injections not only are especially painful but also are more likely to cause a slough. Very thin-walled knots of veins should not be injected for the same reason. The needle should be left in the vein for a few seconds after injection, as this allows the wall to contract down around it and close the hole quickly after withdrawal and prevent a leak. In difficult veins, it is safer to use Genevrier's solution of quinine (4 Gm.) and urethane (2 Gm.) in water (30 cc.), as this is less likely to cause a slough.

The subcutaneous injection of physiologic solution of sodium chloride (from 5 to 10 cc.) over the site of injection does not always prevent an eschar formation, but it is undoubtedly an advantage. If an eschar does form, it should not be excised if there is any sign of infection around it. These eschars are chemical burns, and it is dangerous to cut into any reddened area around a burn.

GANGRENE OF THE LEGS

Only one such case has been reported; [3] but carelessness in choosing cases for injection is as likely to result in such a disaster as it is in surgical excision. The risk is the same for the two methods.

A history of typhoid, intermittent claudication, phlegmasia alba dolens, physical signs of extensive edema of the legs, absence of pulsation in the artery dorsalis pedis or the presence of collateral circulation in dilated veins extending over the abdomen should make one very slow in deciding to inject. Varicose veins which are located almost entirely on the lateral aspect of the leg instead of along the course of the internal saphenous vein are suggestive of thrombosis of the deep veins.

It is my practice to make the Trendelenburg test, but I do this not because I rely on it to demonstrate patency of the deep veins but out of scientific interest, as it may show whether the blood supply to the superficial veins comes from retrograde currents from the

25. Meisen, U.: Nord. med. Ark. **62**: 31 (Jan.) 1927.
26. Meisen, U.: Nord. med. Ark. **62**: 21 (Jan.) 1927.

femoral or from the deep veins of the leg. Berntsen's work on this problem is classic.[1]

The test which I consider safe in demonstrating patency of the deep veins is that advocated by J. P. Pratt of the Henry Ford Hospital. The patient's leg is firmly bandaged, an Ace bandage being used for this purpose. This closes the circulation in the superficial veins. If the circulation in the deep veins has been closed by some previous pathologic process, all venous circulation is cut off. The patient is asked to go out and walk ten blocks. If the venous circulation in both sets of veins is cut off, he will experience violent pain. If he feels comfortable with the bandage obstructing the superficial veins, one may be sure that circulation occurs in the patent deep veins and that it is safe to inject.

SUMMARY

A survey of a series of 4,607 cases shows positively that the mortality by operative excision of varicose veins in America is one in 250. The mortality by injection cannot be so accurately determined; but a study of about 50,000 cases shows that it is less than one in 4,000. Recurrences after operation average 30 per cent, and after injection 6 per cent. Although embolism, phlebitis, ulcer formation and gangrene are rare, no injection should be made until they have been prevented by thorough preliminary study.

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EXPERIENCE WITH THE HENCH-ALDRICH METHOD FOR DETERMINING BLOOD UREA *

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BALTIMORE

About two years ago, Hench and Aldrich [1] described their method for determining blood urea. The procedure, which in principle is the same as their earlier method for the determination of urea in saliva [2] (salivary index to blood urea), is as follows:

> Five cubic centimeters of whole blood is mixed with 5 cc. of 10 per cent trichloracetic acid, and the protein precipitate is removed by filtration or, preferably, by centrifugation. Five cubic centimeters of the filtrate is titrated with a 5 per cent solution of mercuric chloride, which combines with the nonprotein nitrogenous constituents present. The end-point is reached when a drop of the mixture gives within three seconds a definite brownish coloration with saturated sodium carbonate solution on a spot plate.
>
> The number of cubic centimeters of mercuric chloride solution required is multiplied by 40 (giving the amount that would be required by 100 cc. of whole blood), and from this product (the "mercury-combining power") the constant 60 is subtracted. The difference gives the milligrams of urea contained in 100 cc. of whole blood. For a detailed explanation of the formula, the original article may be consulted.

In the Brady Urological Institute, where as many as twenty or thirty determinations of blood urea are carried out each day, this method has been in satisfactory use for about a year and a half. Its advantages over the urease method are its rapidity and simplicity. A single determination can be made in from ten to fifteen minutes, and if several are to be made together the time required for each is proportionately less. When a centrifuge holding eight tubes is used, eight determinations can be made in less than half an hour.

The simplicity of the method is such that it can easily be carried out by one with even a minimum of laboratory training. For this reason it probably gives more accurate results in the hands of a relatively inexperienced worker than the urease method would give.

Results of a Series of One Hundred and Twenty-Six Samples Checked Against the Urease Method

	Mg. per 100 Cc. Blood	Number of Samples	Greatest Deviation: Mg.	Greatest Deviation: Number of Cases	Average Deviation, Mg.
Group 1.....	20- 29	29	6	1	2
Group 2.....	30- 39	28	7	1	2
Group 3.....	40- 49	17	5	2	1
Group 4.....	50- 59	13	5	1	2
Group 5.....	60- 69	8	4	..	2
Group 6.....	70- 89	17	9	2	3
Group 7.....	90-119	11	15 12	1 1	4
Group 8.....	120-160	4	*	..	..

* Deviations of 10, 6, 5 and 0 mg.

Before this method was relied on as a routine procedure, a series of 126 samples was checked against the urease method. These checks furnished a complete confirmation of the observations of Hench and Aldrich. They are shown in the accompanying table, in which they are grouped according to the blood urea, in milligrams per hundred cubic centimeters, found by the urease method.

From the results shown in the table, it is clearly evident that in no case was a clinical error made by the use of the mercury method; indeed, in a great majority of cases the check against the urease method (at least in the ranges up to 70 mg. per hundred cubic centimeters) was as close as one could obtain in duplicate determinations by the urease method. In the higher ranges there was occasionally a greater discrepancy, but it was never sufficiently large to impart false clinical information.

Hench and Aldrich noted that their method may give high results in conditions of leukemia and polycythemia when the mercury-combining power of the whole blood is determined. We have also noted another condition in which high results were obtained. When this method was applied to the blood of dogs fed on a liver diet, the results were much higher than those obtained by the urease method. Doubtless under these conditions the amount of nonprotein nitrogenous constituents other than urea was considerably increased, so that the constant 60, which is subtracted from the mercury-combining power of 100 cc. of blood, is no longer large enough to include them. Hench and Aldrich corrected this discrepancy, in cases of leukemia and polycythemia, by estimating the mercury-combining power not of the whole blood but of the plasma or serum, and using a different constant. This should probably be done in liver-feeding experiments such as ours—certainly if the excess nitrogen is stored mainly in the cells. These clinical and experimental exceptions do not interfere in any way with the general use of the method.

Although there is a fairly large literature confirmatory of the value and accuracy of the "salivary urea index" method (the mercury-combining power of saliva), to date there has been published only one article,

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* From the Brady Urological Institute, Johns Hopkins Hospital.

1. Hench, P. S., and Aldrich, Martha: Urea Retention: A Simple Method for Its Estimation by the Mercury Combining Power of Blood, Arch. Int. Med. **38**: 474 (Oct.) 1926.
2. Hench, P. S., and Aldrich, Martha: A Salivary Index to Renal Function, J. A. M. A. **81**: 1997 (Dec. 15) 1923.

that by Fairley and Splatt,[3] on the mercury method for the determination of urea in blood. Just as there are many cases in which it is much simpler to obtain saliva than blood for the determination of urea retention, so there are conditions such as coma or oral desiccation that make it inconvenient or impossible to obtain the amount of saliva necessary to determine the salivary index. In these cases the determination of the mercury-combining power directly on a blood sample is rapid and simple. Hench and Aldrich have furthermore pointed out that the slight deviation of the results with the mercury method from those obtained with the urease method are generally even less with blood than with saliva.

The method seems particularly suitable for the small diagnostic laboratories of practitioners and consultants, and especially for prolonged urologic observation in which repeated determinations should be simply and rapidly made. The present report is made in the belief that greater familiarity with this method will lead to its advantageous employment in many instances.

THE ETIOLOGY OF BERIBERI*

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It is a well known fact that beriberi is a specific disease which occurs mostly among peoples whose main diet is rice. The prevailing theory at the present time attributes the causation of beriberi to polished rice, which is deficient in a specific substance, commonly referred to as vitamin B. Eijkman produced polyneuritis gallinarum by feeding fowls polished rice. Funk and Suzuki, somewhat later, extracted an effective substance from rice bran and pressed yeast, the so-called vitamin B, which, when fed to fowls having polyneuritis, seemed to restore them to a normal condition. This piece of important work and many others were well received and constitute the basis for current opinion. It is tacitly assumed that beriberi must be caused solely by the absence of vitamin B in the diet. It follows that beriberi may be prevented or cured by supplying this food accessory substance. However, this opinion does not seem to be tenable when viewed in the light of the seasonal occurrence of beriberi in epidemic proportions in the Orient, and support for this doubt is afforded by the results of laboratory and clinical observations.

CERTAIN FACTS ABOUT BERIBERI NOT EXPLAINABLE ON THE PURELY VITAMIN HYPOTHESIS

1. The main diet of the people of Japan proper, especially in the island of Hondo, is largely rice the year around. In winter, however, the fields are frozen, so there is much less of vegetable food than in the summer. It follows of necessity that the diet of the inhabitants with respect to vegetables is materially reduced in winter, and they perforce are required to subsist very largely on rice. Beriberi, however, seems to occur much more commonly in summer; in winter there are comparatively few cases, and a majority of these seem to be cases that carry over from the preceding season without complete cure. It is, of course, well known that intestinal disorders in general, such as dysentery, as well as beriberi, are much more common in the hot months than in winter. On the other hand, in Formosa, for example, where the climate is subtropical, beriberi prevails the year around. The same is true of the littoral of South China, French Indo-China, the Malay States and Java.

2. Those who have studied the incidence of beriberi recognize that the character of the habitations and the nature of the surroundings as well as the diet play an important part. Thus, statistics show that the disease appears abruptly along the coast and on the banks of great rivers. It also spreads within newly settled places where sanitary conditions are unwholesome, in barracks, factories and prisons, and in general where heat and crowding are concomitant factors. It further seems to be a fact that a patient with beriberi actually starts the disease in a new locality (so-called invasion beriberi).

These developments appear to be significant, because they occur among peoples subsisting on the same food.

3. When a case of beriberi appears on a ship or in a dormitory, factory or other institution, the disease spreads gradually; but persons in other buildings on a similar dietary regimen may remain unaffected.

4. Overstrain, lack of exercise, insufficient sleep and intemperance seem to predispose to beriberi, just as they do to other diseases. Usually, also, beriberi occurs most commonly where conditions are insanitary. This indicates that beriberi is not caused merely by a dietary deficiency.

5. Statistics from Japan show clearly that the epidemic tendency of beriberi varies from year to year, precisely as epidemic diseases vary among themselves.

It would appear, therefore, that the cause of beriberi should be considered from the point of view of its epidemiology.

POLYNEURITIS GALLINARUM DUE TO INFECTION WITH A SPECIFIC BACILLUS

The deficiency diet (polished rice) is merely a factor that constitutes a predisposition to the infection. Toyama fed polished rice to a large number of fowls; approximately only 50 per cent developed polyneuritis. We have repeated these experiments with substantially the same results.

Table 1 shows in condensed form the results of thirty-two successful feeding experiments. It will be noted that the time of the appearance of the disease varied from two to seven weeks. It should be emphasized that the pigeons of these series were fed on the same quality and quantity of polished rice by forced feeding. If the birds were allowed to feed freely, the onset of the disease was even more irregular. It seems proper to classify the disease reproduced experimentally into two rather distinct types: the spasmodic paralytic form and the paralytic nonspasmodic form. The first type responds well to treatment with vitamin B. Even the most severe cases of this group are clearly benefited within a few hours by injections of vitamin B solution. (We used the oryzanin prepared by Suzuki).

If the feeding of polished rice was continued while the pigeons suffering from the spasmodic paralytic type were receiving vitamin B, the pigeons had a relapse, and died usually within nine days in spite of the vitamin treatment. This result, shown uniformly by ten consecutive pigeons, does not seem to be explainable solely on a hypothesis of vitamin deficiency.

3. Fairley, K. D., and Splatt, B.: Simple Technic for Estimation of Blood Urea, M. J. Australia 1: 517 (May 8) 1926.

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As to the second type of the disease, even under the most favorable conditions the injection of vitamin B is a test of uncertain value.

TABLE 1.—*Thirty-Two Successful Feeding Experiments*

Pigeon	Days till B. Beriberi Appeared in Feces	Days from Appearance of B. Beriberi in Feces	Total Incubation Period
11	15	14	29
12	10	8	18
13	15	9	24
14	33	12	45
15	25	11	36
16	?	?	?
17	15	4	19
18	22	8	30
19	22	8	30
20	13	10	23
31	30	12	42
32	15	6	21
33	10	6	16
34	?	?	?
35	14	4	18
36	13	4	17
37	10	5	15
38	32	12	44
39	15	7	22
40	10	5	15
41	15	6	21
42	14	6	20
43	?	?	?
44	34	13	47
45	?	?	?
46	?	?	?
47	8	5	13
48	16	4	20
49	17	7	24
50	16	5	21
51	18	5	23
52	16	6	22

STUDY OF INTESTINAL FLORA

An organism resembling *B. coli-communior* was found, usually in relatively large numbers, among the intestinal types isolated from experimental animals and also from human cases. The microbe ferments saccharose readily; hence Endo plates containing this sugar in place of lactose lend themselves well for isolation.

The organism, like *B. coli,* is gram-negative and motile and does not form spores. It has peritrichal flagella. It does not liquefy gelatin; it produces indol, coagulates milk and shows a rather distinctive colony on agar plates. It ferments the common hexoses, as well as maltose, lactose, saccharose, xylose, the hexatomic alcohols, mannitol and sorbitol, and glycerin, rhamnose and arabinose, all with the production of gas and acid. Fermentation of dulcitol and salicin is irregular. Inositol, adonitol, erythritol and *a*-methylglucoside are not fermented. The organism has been named *Bacillus beriberi.* The differentiation of *B. beriberi* from *B. coli-communior* depends on the fact that the beriberi bacillus agglutinates and also gives a complement fixation reaction; *B. coli-communior* does not.

TABLE 2.—*Results of a Feeding Experiment with Ten Pigeons*

Pigeon	Days from the Beginning of Feeding Mixed with Beriberi Bacillus till Typical Attack
53	15
54	10
55	17
56	20
57	16
58	10
59	16
60	10
61	14
62	10
Average	14 days

INCUBATION PERIOD OF POLYNEURITIS GALLINARUM FROM THE STANDPOINT OF THE BERIBERI BACILLUS

Table 1 shows the time that elapsed from the first feeding of polished rice to a series of thirty-two pigeons till the specific bacillus was isolated from the feces, and also the period that elapsed till the acute attack developed.

The spontaneous appearance of the bacillus, it will be seen, is irregular. In two pigeons no bacilli were found. In the remaining twenty-seven, the development of the first bacilli ranged from the eight days in pigeon 47 to thirty-four days in pigeon 44. The symptoms appeared somewhat more regularly after the spontaneous appearance of the organism: from four to fourteen days, in the series tabulated. It is worthy of note that pigeons 34 and 45, which did not exhibit the disease, were apparently free from the specific organism.

The details of a feeding experiment will illustrate this more clearly. A series of ten pigeons were fed polished rice and, at the same time, broth cultures of the beriberi bacillus (10 cc. of a twenty hour broth culture grown at 37 C.). Ten cubic centimenters of this culture was administered daily for three days. The specific organism was found in the feces of this series of pigeons in from three to seven days after the feeding. The typical paralysis appeared in each animal within fourteen days of the isolation of the microbe from the feces. Table 2 shows the results of this experiment.

The first ten pigeons from table 1 might be charted for comparison. It will be seen that the ten pigeons fed polished rice alone showed an average interval of twenty-nine days from the beginning of the experiment to the development of paralysis. The pigeons receiving the specific organism as well as the polished rice became paralyzed within an average period of fourteen days from the first feeding.

TABLE 3.—*Incidence of Beriberi Bacillus in the Fecal Discharges of Patients with Beriberi*

Hospital	Number of Patients Examined	Number of Patients in Whom Beriberi Bacillus Was Proved
Hospital of Chiba University	31	29
Garrison Hospital in Chiba	15	13
Taihoku Hospital in Formosa	13	7
Hospital of Pasteur Institute in Saigon	9	8
Military Hospital in Kantong	8	5
Tan Tokseng Hospital in Singapore	50	36
Total	135	98
Positive ratio		74%

APPEARANCE OF THE BERIBERI BACILLUS IN CASES OF BERIBERI

The feces of a series of patients with beriberi in several countries were examined for the beriberi bacillus, which has been described. The Endo plate, with which saccharose was used in place of lactose, was employed for the preliminary separation of the microbe, and final identification was made by cultural and by agglutination tests, a specific serum from an immunized rabbit being used.

Table 3 shows the results in 135 cases. In ninety-eight subjects, or 74 per cent, the beriberi bacillus was present in the feces.

The question naturally arises: What is the incidence of the beriberi bacillus in the feces of normal persons?

The feces of a group of patients from the Chiba University Hospital, and the Chiba Military Hospital, none of whom had beriberi, revealed an incidence of about 1 per cent.

In 400 soldiers of the First Regiment of Chiba a like incidence was found. A general examination of the feces of 2,103 inhabitants of the town of Narita, in the Chiba prefecture, was made as a further control. The period selected was from December, 1927, to January, 1928. From these specimens, 101 cultures of red colonies on saccharose plates were obtained. These cultures were tested with a specific serum, and only eighteen showed a positive agglutination. This is about 1 per cent of the total number of cases studied bacteriologically, and agrees very well with the results of the examination of the patients in the hospitals and the soldiers of Chiba. It will be seen that the incidence of the beriberi bacillus, therefore, among persons without beriberi is about 1 per cent. This is about the percentage of carriers of intestinal pathogenic bacteria in general.

SPECIFIC SERUM REACTION OF THE BLOOD OF PATIENTS WITH BERIBERI

Fowls with beriberi were found to have developed specific agglutinations of considerable potency; usually titers of from 200 to 500 were obtained. If the disease was reinduced, after an initial recovery, the titer not infrequently rose to a higher value—1:1,000, or even more.

Table 4 shows the typical agglutination reaction between the beriberi bacillus and specific serums from several fowls having beriberi.

It is, of course, important to study the serum of persons having beriberi. It would seem reasonable to anticipate the development of specific agglutinations in this disease, as fowls show a fairly high titer. Table 5 summarizes the results obtained in a very few cases. The test was performed in the usual manner. It will be noted that the several serums were taken partly from patients in the hospital affiliated with the Pasteur Laboratory in Saigon, partly from those in the hospital at Chiba University.

None of these serums failed to agglutinate the beriberi bacillus in a dilution of 1:200, and three agglutinated the organism in a dilution of 1:1,000.

TABLE 4.—*Typical Specific Agglutination Reactions of Blood Serum of Beriberi Fowls for the Beriberi Bacillus*

Animal	Dilution of Serum 1:50	1:100	1:200	1:500	1:1,000	Control
50	+	+	+	+	+	—
35	+	+	+	+	—	—
40	+	+	+	+	+	—
41	+	+	+	+	+	—
46	+	+	+	+	+	—
47	+	+	+	+	+	—
48	+	+	+	+	—	—
49	+	+	+	+	+	—

It is of interest to record the results of agglutination tests performed on thirty consecutive patients with beriberi. Twenty-five, or 83 per cent, were positive.

As controls for the specific agglutinations obtained in typical cases of beriberi, the serums of normal persons were examined, the same organism and technic being used. Unless a positive test in a dilution of 1:50 was obtained, the result was deemed negative. Forty normal persons were thus examined, and three, or 7.5 per cent, were found positive.

CONCLUSION

1. The results of these experiments on animals seem to prove that the beriberi bacillus should be judged the principal etiologic factor in experimental beriberi. A deficient diet, consisting of polished rice, seems to be merely a factor that constitutes a disposition to the disease.

TABLE 5.—*Specific Agglutination Reactions of the Blood Serum of Beriberi Patients for the Beriberi Bacillus*

Beriberi Patient	Dilution of Serum 1:50	1:100	1:200	1:500	1:1,000	Control
Pasteur II serum	+	+	+	+	+	—
Pasteur IV serum	+	+	+	+	—	—
Pasteur VIII serum	+	+	+	+	—	—
Nozaki serum	+	+	+	+	—	—
Sato serum	+	+	+	+	+	—
Ishii serum	+	+	+	+	+	—
Takahashi serum	+	+	+	+	—	—
Yoshida serum	+	+	+	+	—	—
Oto serum	+	+	+	+	—	—
Nagoshi serum	+	+	+	+	—	—

2. The beriberi bacillus was isolated from the feces of a considerable number of patients with beriberi.

3. Normal persons and experimental animals free from beriberi do not harbor the specific bacillus.

4. When the specific bacillus is fed to experimental animals, the organism becomes implanted; then the specific symptoms follow.

5. The serum of experimentally infected animals, as well as the serum from human cases of beriberi, contains potent specific agglutinins for the beriberi bacillus.

VISCEROSENSORY PHENOMENA IN ACUTE OBSTRUCTION OF THE UPPER URINARY TRACT

THE SUBINGUINAL SYNDROME OF URINARY COLIC

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Viscerosensory phenomena or skin signs are altered responses to various sensory stimuli demonstrable in restricted zones of the body wall as a result of certain types of internal disorders. The neuromechanics of these phenomena is unknown, and I shall not offer any explanatory theories here. My purpose in this article is to report a series of clinical and experimental observations that highly evaluate the practical application of these phenomena not only as diagnostic evidence of acute upper urinary tract obstruction but as signs of particular value in ruling out the various intra-abdominal crises (gallbladder, intestinal and appendicular) which may so closely simulate ureteral colic. The clinical merit of these signs is enhanced not only by their accuracy but by reason of the fact that they are often the first and only evidence pointing definitely to involvement of the urinary tract. Experimentally, skin signs can be uniformly demonstrated; application of these tests at the bedside does not require any instrumental armamentarium.

Observations on skin signs are by no means new. Long before the theory of the reflex arc and referred pain was expounded by John Ross in 1888, John Hunter had noted persistent hyperesthesia in his left arm following attacks of angina pectoris. Sir James

MacKenzie (1892) agreed with Ross's theory as did Head, who later popularized the skin zones bearing his name—the somatic segmental distributions of the sensory nerves. So elaborate, contradictory and confusing did the body chartings made by Head and his followers become, and with this confusion so great were the clinical inaccuracies and misinterpretations, that the diagnostic value of these observations rapidly passed into disrepute and discard. Head probably was the first to record areas of cutaneous hyperesthesia in a few cases of ureteral colic. He noted that the hyperesthesia was distributed chiefly over the upper anterior thigh of the affected side, but these observations were indefinite and statistical data were not recorded. He also noted the testicular retraction in certain cases of renal colic and while his observations were perhaps the first in this field, it remained for Livingston [1] to map out a definite triangle in the upper inner thigh of the affected side within which zone skin signs may be uniformly observed at varying intervals after the acute onset of pain in the upper urinary tract. Mention is not found in urologic textbooks of the precise localization, experimental demonstrability or clinical value of these cutaneous phenomena.

THEORY

The viscerosensory phenomena are theoretically based on the synaptic overflow of nerve impulses from the autonomic fibers of a diseased viscus (ureter, for example) to the adjacent segmental sensory nerve from a skin zone. The precise site of synapse is unknown. It is well known, however, that the brain may misrefer the pain of ureteral colic wholly or in part to the associated peripheral sensory nerve distribution rather than to the ureter itself—a frequent clinical observation and one that parallels the sensation of painful fingers following some arm amputations. This also explains why stimuli applied to the skin of this peripheral sensory zone are more keenly felt than are stimuli of equal intensity applied to skin areas not reflexly connected with a diseased viscus.

Acute localized pain originating within the course of the upper urinary tract may be due to smooth muscle spasm initiated by the passage of a foreign body or to suddenly increased intrapelvic tension coincident to the urinary distention of complete or nearly complete ureteral or ureteropelvic obstruction. While most often associated with the passage of calculi, blood clots or the débris of renal necrosis, sudden blockage may be due to ureteral kinks (nephroptosis) or other ureteral obstructions (e. g., aberrant renal vessels) with or without kinks or calculi. The cutaneous hyperesthesia over the upper inner thigh is the somatic reflection of this internal disturbance. The observations here reported are based entirely on clinical and experimental experience; I am not concerned with the theoretical aspects of the problem.

1. Livingston, E. M.: Further Studies of Viscerosensory Phenomena, J. A. M. A. **82:** 1495-1498 (May 10) 1924.

TABLE 1.—*Skin Signs in Patients Proved to Have Acute Upper Urinary Tract Obstruction* *

Case	Age	Sex	Side	Chief Complaint	Pain Radiation	Urologic Lesion		Skin Signs	Comment
						Primary	Secondary		
1. I. S.	30	♂	L	Sharp stabbing pain in loin	0	Aberrant renal vessel	Acute hydronephrosis (Dietl's crisis)	+	Relieved by operation
2. J. D.	22	♀	I	Sharp colic in left lumbar and lower quadrant	Groin	Stricture of ureter with stone	Infected hydronephrosis	+	Ureterotomy
3. A. G.	41	♂	R	Colic in right loin....	Right lower quadrant	Nephroptosis with ureteral kink	Infected hydronephrosis (Dietl's crisis)	+	Nephropexy
4. G. S.	38	♂	R	Loin colic followed by dull ache	Groin	Ureteral stone	Infected hydronephrosis	+	Stone passed following urteral dilation
5. L. C.	28	♂	L	Loin colic persisting as sharp ache	Left lower quadrant	Ureteral stone	Infected hydronephrosis	+	Stone passed
6. A. G.	46	♀	R	Dull ache in right loin with occasional colic	0	Stricture of ureter; cystinuria	Infected hydronephrosis	+ after colic	Relieved by ureteral dilation
7. G. H.	24	♂	R	Intense loin colic.....	Groin	Ureteral stone	Infected hydronephrosis	+	Stone passed following ureteral meatotomy and dilation
8. J. D.	22	♀	R	Loin colic followed by continuous pain	Right lower quadrant	Stone in renal pelvis; stricture of ureter	Infected hydronephrosis	+	Marked atresia of midureter proved by instrumentation and urogram
9. M. L.	26	♀	R	Sharp loin colic.....	Right lower quadrant	Stone in ureteropelvic junction	Infected hydronephrosis	+	Refused treatment (urographic diagnosis)
10. G. J.	38	♂	R	Sharp loin colic.....	Groin	Ureteral kink	Infected hydronephrosis (Dietl's crisis)	+	Refused treatment
11. H. T.	35	♂	L	Sharp loin colic.....	Left lower quadrant	Aberrant artery and vein (renal)	Infected hydronephrosis (Dietl's crisis)	+	Nephrectomy for pyonephrosis
12. R. D.	6	♀	R	Intermittent loin colics	Groin	Aberrant artery	Infected hydronephrosis (Dietl's crisis)	+	Nephrectomy for pyonephrosis
13. M. D.	28	♂	R	Lumbar-loin colic	Groin	Ureteral stone	Infected hydronephrosis	+	Stone passed
14. J. G.	46	♂	R	Repeated loin colics...	Groin and testicle	Stone in ureteropelvic junction	Infected hydronephrosis	+	Pyelotomy
15. A. F.	28	♂	R	Repeated loin colics...	Right lower quadrant	Stone in renal pelvis	Infected hydronephrosis	+	Pyelotomy
16. J. D.	29	♂	R	Loin colic	Groin	Stone in ureter	Infected hydronephrosis	+	Ureterotomy
17. C. C.	40	♀	R	Intermittent colic loin	Right lower quadrant	Ureteral obstruction by cancer of the broad ligament	Infected hydronephrosis	+ after colic	No treatment
18. D. H.	33	♂	R	Colic in right lower quadrant	Testicle	Ureteral stone	.....	+	Stone passed; patient sent to hospital as having appendicitis
19. A. L.	46	♂	L	Marked urinary frequency, renal colic 2 days later	Groin, testicle	Ureteral stone	Infected hydronephrosis	+	Passed five stones following ureteral dilation; skin signs present 2 days before colic
20. A. O'K.	23	♀	R	Sharp pain in kidney area, persisting for 3 days	Right lower quadrant	Ureteral kink	Infected hydronephrosis	+	Relieved by indwelling ureteral catheter
21. A. B.	29	♀	R	Intermittent colics in loin and right lower quadrant	Right lower quadrant	Ureteral stricture (aggravated by pregnancy)	Infected hydronephrosis	+	This patient, after first seen, was about to have an appendectomy performed; relieved by ureteral dilation

* In the tables, ♂ indicates male; ♀, female.

TABLE 1.—*Skin Signs in Patients Proved to Have Acute Upper Urinary Tract Obstruction—Continued*

Case	Age	Sex	Side	Chief Complaint	Pain Radiation	Urologic Lesion		Skin Signs	Comment
						Primary	Secondary		
22. N. C.	21	♀	R	Nausea, vomiting; slight pain in loin and right lower quadrant	0	Ureteral stone	Infected hydronephrosis	+	Ureterotomy; appendicitis had been previously diagnosed by several surgeons
23. C. N.	24	♀	L	Left lower quadrant colics	0	Ureteral stone	Infected hydronephrosis	+	Stone passed
24. E. G.	54	♂	R	Pain in right lumbar and loin; nausea and vomiting	Right lower quadrant	Ureteral stone	.....	+	Positive skin signs were first evidence of genito-urinary tract involvement; hematuria and frequency of every 10 minutes followed 6 hours later
25. J. McE.	61	♂	R	Pain in right lumbar and loin; nausea and vomiting	0	Ureteral stone	.....	+	Skin signs positive 12 hours before hematuria and frequency appeared
26. O. J.	24	♂	L	Sharp pains in lumbar region; nausea	Left thigh and scrotum	Ureteral stone	Infected hydronephrosis	+	Ureterotomy
27. J. B.	40	♂	L	Colic in loin and lumbar region; nausea and vomiting	Left thigh and scrotum	Stricture of ureter	.....	+	Colic onset 10 hours after unilateral ureteral instrumentation by another physician
28. M. F.	28	♀	R	Colic in loin and lumbar region; nausea and vomiting	Right lower quadrant	Ureteral stone	Infected hydronephrosis	+	Several previous instrumentations to aid stone passage; x-ray positive for stone
29. H. O.	45	♂	R	Vomiting; pain over right upper quadrant	0	Ureteral stone	Infected hydronephrosis	+	Many previous attacks; marked frequency; stone passed after dilation of ureter
30. F. P.	27	♂	R	Colic in loin; nausea and vomiting	Penis and scrotum	Ureteral stone	.....	+	Associated hematuria and frequency
31. L. F.	40	♂	L	Colic in loin; nausea and vomiting	Tip of penis	Ureteral stone	Infected hydronephrosis	+	Ureterotomy
32. H. F.	19	♀	R	Dull lumbar ache; nausea, vomiting; intermittent colic	Right lower quadrant	Tuberculous kidney and ureter	Hydronephrosis	+	Nephrectomy; skin signs positive after colic
33. M. O.	30	♀	R	Nausea; colic in lumbar region; chills and fever	Right upper quadrant, right lower quadrant	Renal pelvic stone	Hydronephrosis	+	Pyelotomy
34. R. A.	31	♂	R	Lumbar and loin colics; nausea, vomiting	Thigh	Ureteral stone	Hydronephrosis	+	No operation; urographic diagnosis
35. E. G.	54	♂	R	Lumbar and loin colics; nausea, vomiting; extreme shock	Right lower quadrant	Ureteral stone	.....	+	Refused treatment
36. F. McD.	61	♂	R	Lumbar colic; nausea, vomiting	Thigh	Marked right urinary tract infection; nature of obstruction not proved		+ after colic	Patient had been under urologic treatment for some time (colic due to clot, débris, stone?)
37. J. B.	27	♂	R	Acute pain in right lower quadrant and right loin; nausea	0	Ureteral stone (at ureterovesical orifice)	Acute hydronephrosis	+	"Acute abdomen," rigidity in right upper and lower quadrants; 6 hours after colic, hematuria and frequency
38. G. B.	20	♀	R	Sudden severe pain in right lower quadrant; vomited twice	Groin	Nephroptosis (Dietl's crisis)	Acute ureteral angulation; hydronephrosis	+	Urographic diagnosis; no stone shadows
39. K. P.	32	♂	R	Acute pain in right lower quadrant; nausea and vomiting	0	Renal stones	.....	+	Pyelotomy; admitted to hospital as having appendicitis because of marked pain over McBurney's point
40. P. C.	34	♂	L	Colic in left lower quadrant; nausea, vomited once	0	Ureteral stones	Infected hydronephrosis	+	Two stones passed following ureteral meatotomy and dilation

APPLICATION OF THE SIGNS

By virtue of the clinical accuracy of these particular skin signs, their diagnostic value is biphasic; i. e., not only do they localize the pain of obstruction to the upper urinary tract but they at once rule out colics of appendical, enteral or biliary origin, all of which may be accompanied by vomiting, nausea, rigidity and pallor. In several of my patients positive skin signs were observed some time before any other localizing evidence of the site of the primary lesion was manifest. Moreover, they frequently outlast the initial pain and may thus be of far greater positive value than the subjective description of the attack.

Within a period varying from five minutes to a few hours (usually not more than twenty minutes) following either clinical or experimental ureteral colic, isolateral hyperesthesia will be found within a triangular area bounded as follows: A line beginning at the middle of Poupart's ligament and running parallel to the course of the sartorius muscle until it reaches the inner border of the thigh forms the outer side of the triangle; the inner border of the thigh forms the inner triangular border, and the inner half of Poupart's ligament forms the third side (Livingston triangle). This is shown in the accompanying illustration. Hyperesthesia is usually limited to this area but may extend slightly beyond these limits. It must be remembered that the sensory supply of this area is not that of one nerve trunk only but follows somatic segmental rather than peripheral nerve distribution.

The confines of this triangle have been determined by clinical observation rather than by theoretical considerations. Hyperesthesia confined to this triangle and maximal at its center has been found in my experience (both clinical and experimental) to be due to no other condition than pyelo-ureteral colic. It is not to be understood that hyperesthesia is always observed precisely filling this area. It may in mild cases appear only near the center of the triangle or, in cases of extreme intensity, positive skin signs may be elicited slightly beyond these borders. This triangle, therefore, represents an area of clinical limits. Hyperesthesia extending into this zone from without or widely disseminated beyond the borders from within should be considered as a negative skin sign for ureteral involvement. By "positive skin signs for ureteral colic" is meant hyperesthesia which is maximal at the center of the triangle and does not extend beyond its limits. Thus the establishment of arbitrary clinical limits obviates confusion from overlapping areas of hyperesthesia and affords a precise diagnostic test.

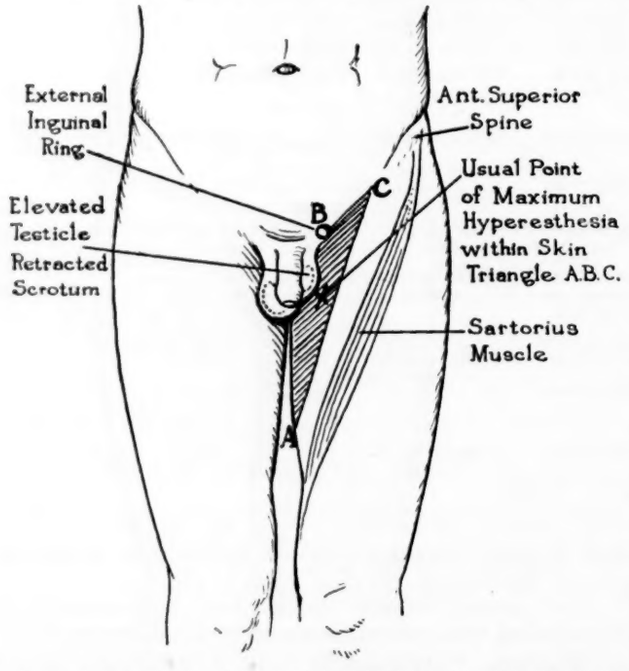
METHOD OF TESTING

In eliciting skin signs, hyperesthesia is best tested for by the application of coarse stimuli; roughly twisting or pulling the skin between the thumb and first

finger is the recommended method. Following ureteral colic, marked hyperesthesia within the triangle will be noted. Altered responses to heat and cold as well as a localized erythema are also usually observed. Further evidence of the reflex phase is the cremasteric spasm with testicular elevation and marked tenderness of the organ on the affected side—an ancient observation. Although it has been stated that hyperesthesia of the labia and scrotum is never present, not infrequently I have found that tenderness does exist in these areas.

OBSERVATIONS IN USE OF SKIN SIGNS

In thirty-five of the eighty-five patients studied in this series, experimental observations alone were made. The remaining fifty were observed clinically and differential diagnosis included the consideration of upper urinary tract disease. The nature of the surgical lesion was ultimately determined by operation, by roentgenography or by a thorough urologic examination. Of these patients forty presented positive skin signs indic-



Area of clinical limits of cutaneous hyperesthesia when the subinguinal syndrome of ureteral colic is present. In mild cases, hyperesthesia may be present only in the region indicated by the cross.

ative of upper urinary tract disease and in all of these gross obstruction and evident cause of pain (colic) were demonstrated (table 1). Twenty-nine of the latter group gave a history of previous pain in the urinary tract. With seven the present illness was the first attack and concerning the past history of the remaining four there are no data. In most cases skin signs were present when the patient was first seen following the acute attack. Certain cases here reported are of especial interest, the first because of the relatively long interval between the initial pain and the appearance of skin signs.

REPORT OF CASES

CASE 25.—In a man, aged 61, with an acute onset of sharp pain in the right loin, nonradiating but accompanied by nausea and vomiting, there was no previous history of urinary tract disease, and when he was first seen immediately after the onset, testicular elevation and tenderness were noted but the skin signs were negative. A specimen of urine could not be obtained, but the urinary schedule was reported as normal. When seen twelve hours later, there was marked tenderness throughout the right side, back and right lower quadrant of the abdomen, and gross hematuria was noted, as was a urinary frequency of every ten to fifteen minutes. The testicle was normal in position but still tender. Skin signs over the upper inner thigh triangle were positive. The patient refused urologic examination but a roentgenogram revealed a small calculus low in the right ureter.

Strikingly similar is the following clinical observation, since there was no previous urinary tract history and testicular tenderness and elevation with positive skin signs constituted the first localizing and diagnostic indication of the involved viscus.

CASE 24.—A man, aged 54, with a sudden onset of nausea and right lumbar pain radiating to the right lower quadrant of the abdomen, showed right testicular elevation and tenderness and positive skin signs. The patient could not void a specimen and refused urologic examination. When seen six hours later there was still pain in the lumbar region as well as in the thigh and testicle, but in addition marked hematuria had appeared and the patient was voiding every ten minutes. He refused further examination but the underlying lesion was obviously one of the upper urinary tract.

Equally interesting and significant is the following clinical observation in which positive skin signs for ureteral colic were elicited thirty-six hours before the actual acute onset:

CASE 19.—A. L., a man, aged 46, when first seen complained of marked burning on urination with a frequency of every twenty to thirty minutes. Pain was not present, but there was a sense of discomfort localized in the prostatic region. The voided urine was clear, although an occasional pus cell was seen microscopically. Rectal examination revealed a slightly enlarged and exquisitely tender prostate, which observation misled us to institute periodic hot rectal irrigations and hot sitz baths. When seen eight hours later, the patient complained of a slight pain low in the left lower quadrant of the abdomen. The left testicle was found elevated nearly to the inguinal ring and marked hyperesthesia was present over the upper inner thigh triangle. A diagnosis of ureteral stone was made. Thirty-six hours later a sharp and prolonged left renal colic developed. This was followed by the intense pain of acute hydronephrosis which persisted for five days. Roentgenograms were negative for calculi. Since it seemed unlikely that the obstruction would relieve itself and in view of the persistent intense renal pain, a number 12 French catheter was passed to the left kidney pelvis, relieving a large tense hydronephrotic pool of bloody urine. In the passage of the catheter a definite obstruction was encountered 26 cm. up the ureter. The catheter was left in situ for forty-eight hours to drain the kidney pelvis. Two days following the removal of the catheter, five uric acid stones varying in diameter from 2 to 8 mm. were passed. In this case the early elicitation of positive skin signs was of invaluable aid in anticipating the succeeding events.

To emphasize further the differential diagnostic value of skin signs, attention is directed to patient 4 in Livingston's report.[1] Briefly, the case was as follows:

A woman, aged 31, who complained of severe pains in the right side of the abdomen with cramps in the upper portion of the abdomen, had been suffering for three weeks from epigastric cramps with colic in the right lower quadrant of the abdomen radiating to the back. She could not retain any food and had not had a bowel movement in five days. There was diffuse tenderness over the right kidney on fist percussion. Skin signs were positive for urinary tract colic. A roentgenogram taken with ureteral catheters in place revealed shadows described as outside the kidney pelvis and thought to be in the gallbladder. An operation for cholelithiasis was performed. No biliary disease was found that would account for the symptoms, but two stones were identified in the kidney substance (minor calices). Many clinical details, omitted for the sake of brevity, strongly suggested gallbladder disease. Furthermore, the positive skin signs were the only definite evidence pointing to urinary tract involvement.

COMMENT

From the standpoint of differential diagnosis, one should consider the importance of skin signs in a series of ten cases presenting symptoms often associated with ureteral colic but in which skin signs were repeatedly negative and urologic examination or operation did not reveal any surgical lesions of the urinary tract but did disclose disease elsewhere. I have observed many more such cases but have presented these few as representative of the diagnostic problem. As will be noted by reference to table 2, this group includes patients with appendicitis, purulent cholecystitis, diaphragmatic pleurisy and morphinism—the latter an addict malingering a renal colic, hoping thereby to obtain the drug.

Skin signs usually disappear within seventy-two hours after the colic. I have repeatedly observed negative skin signs in patients in whom colic had occurred two or more days previously and in whom ample urinary drainage had established itself about a demonstrable ureteral stone. In the presence of persistent complete obstruction, positive skin signs may be elicited for many days. In case 19 of this series, positive skin signs were present for eight days.

SUMMARY

The subinguinal syndrome of ureteral colic, so called because of lack of a more definite term, may be clinically recognized and elicited as follows:

Inspection reveals elevation of the testicle and an unusual wrinkling of the scrotum isolateral with the urinary tract involvement in most males. In females, inspection is of no help.

Palpation discloses an unusual testicular sensitiveness of the same side, and often vasomotor changes are indicated by a slight elevation of the skin temperature of the upper inner thigh triangle. Marked vasomotor changes are indicated by an erythema within the limits of the skin triangle; dermographia can usually be demonstrated. Coarse sensory stimulation as produced by firmly twisting or pulling the skin over this area reveals a marked cutaneous hyperesthesia when the test is positive. In most instances thermal hyperesthesia is present and may be elicited by the application of hot test tubes or the use of an ethyl chloride spray. Initial observations should be made on the side opposite to that in which there is the abdominal pain.

TABLE 2.—*Skin Signs in Patients Presenting Symptoms Suggestive of But Proved Not to Be Acute Upper Urinary Tract Obstruction*

Case	Age	Sex	Side	Chief Complaint	Pain Radiation	Suspected Disease	Proved Disease	Skin Signs	Comment
1. M. F.	48	♂	L	Dull loin ache; occasionally sharp	0	Nephrolithiasis	Mild renal infection; no obstruction	0	Normal urogram and renal function
2. J. L.	31	♂	R	Colic in right kidney region	0	Nephrolithiasis	None found; urinary tract negative; no infection	0	Normal urogram and renal function
3. K. McK.	27	♀	R	Nausea and recurrent colics in loin and lower lumbar regions	Groin	Nephrolithiasis	Retrocecal subacute appendicitis	0	Appendectomy; no further pains (6 months)
4. G. L.	31	♂	L	Stabbing pain in lumbar region and loin	Left lower quadrant	Nephrolithiasis	Perinephritic abscess	0	Incision and drainage; kidney not involved
5. J. G.	28	♀	L	Continuous colicky pains in left kidney region	0	Nephrolithiasis	Polycystic kidney with moderate infection	0	Nephrectomy
6. G. H.	32	♀	R	Lumber colic; nausea, vomiting, chills	Right upper quadrant, right lower quadrant, back	Nephrolithiasis	Empyema of gallbladder	0	Pain chiefly in back; operation delayed 24 hours on suspicion of kidney involvement
7. M. H.	27	♂	R	Lumber pain, nausea, vomiting	Groin	Nephrolithiasis	Acute retrocecal appendicitis	0	Appendectomy
8. J. R.	33	♂	R	Sharp pain in lumbar region and in right lower quadrant	Thigh	Nephroptosis with Dietl's crisis	Retroperitoneal fibrolipoma	0	Removal of growth
9. M. O.	17	♀	R	Sharp pain in lumbar region and in right lower quadrant; nausea, vomiting, chill	Lumbar, right lower quadrant, right upper quadrant	"Acute abdomen," possibly renal stone	Acute diaphragmatic pleurisy	0	
10. J. U.	27	♂	L	Severe colic, lumbar and loin	Thigh, lower abdomen	Renal stone	Morphinism	0	Patient was a drug addict; regularly and successfully malingering renal colic at several hotels

EXPERIMENTAL EVIDENCE

Of perhaps greatest interest and importance in establishing the clinical value of this test is the ease with which these skin signs may be experimentally produced at will in any patient. Following the introduction of a ureteral catheter on one side and the distention of the renal pelvis or ureter to the degree that the patient is caused sharp pain, positive skin signs will be uniformly observed to appear within from five to twenty minutes. They will persist from one to three days. I have time and again noted this phenomenon after diagnostic investigation of one ureter or after therapeutic dilation of a ureter with one of the larger ureteral bougies. I have records of this experimental evidence as observed in thirty-five patients in whom unilateral ureteral investigation was carried out. Catheterization of both ureters, of course, renders a clear-cut experimental demonstration impossible; both thigh triangles may become hyperesthetic.

CONCLUSION

The clinical application of the viscerosensory phenomena as indicated here affords a simple yet accurate diagnostic aid which, when positive, limits the acute lesion to the upper urinary tract. If too great an interval has elapsed following the acute onset, and the ureteral obstruction has been relieved for some time, the skin signs will be negative. The specific value of the test is augmented by the uniformity and facility with which it is experimentally demonstrable.

33 East Sixty-Eighth Street.

The Relation Between Thyroid and Heart Disease.—All who are familiar with diseases of the thyroid are impressed with the symptoms produced by the heart late in the disease. Many victims of hyperthyroidism die a cardiac death. This form of heart disease is most easily and certainly prevented by those measures that prevent goiter. In regions where thyroid disease is so uncommon that goiter-preventive methods are not in use, cardiac disease can be prevented by the early recognition and treatment of the thyroid disorder.—Dever, F. J.: The Prevention of Heart Disease, *Pennsylvania M. J.*, January, 1929.

THE EFFECT OF LIVER ON THE BLOOD SUGAR LEVEL*

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In the treatment of pernicious anemia with liver as suggested by Minot and Murphy,[1] a certain proportion of patients may complain of a peculiar train of symptoms including marked hunger, headache, nervousness and sweating. These symptoms, which simulate those frequently occurring with hypoglycemia, led us to study the blood sugar level in a group of individuals following the ingestion of a definite amount of liver. This work was started in 1926, and a preliminary report was presented before the American Society for Clinical Investigation.[2] In the present paper we are reporting in further detail observations on the effect of liver on the blood sugar levels in eighteen cases of diabetes, in nine cases of primary and secondary anemia, and in two normal persons.

REVIEW OF THE LITERATURE

Liver is an article of food that has usually been forbidden in the diabetic diet because of its carbohydrate content. It is of interest, however, that since 1896 there have appeared occasional reports, especially in the French literature, concerning the beneficial effect of liver in the treatment of diabetes. Gilbert and Carnot[3] published several papers on this subject. Their studies showed that hepatotherapy had an appreciable influence on glycosuria in a number of diabetic patients, but its effect varied according to the case. Sometimes the administration of liver caused a diminution or disappearance of the glycosuria, while at other times it had no appreciable influence or even increased the total amount of sugar in the urine. They felt that cases of diabetes which were influenced favorably by liver therapy were those associated with a functional insufficiency of the liver, while the cases which did not improve or were made worse by the treatment were those in which the glycosuria depended on a hyperactivity of the liver. They concluded, therefore, that the use of liver not only constituted a method of treatment but also served as a diagnostic means to distinguish between the diabetic patients with decreased and those with excessive function of the liver.

Jousset[4] treated diabetic patients with extracts of various organs, prepared according to the method of Brown-Séquard. These were administered by mouth. For pancreas, he substituted an extract of liver, and as a result the quantity of sugar in the urine was notably diminished in several cases.

Lamoureaux[5] published an interesting report on hepatic organotherapy in twenty-five cases of diabetes, in eighteen of which there was definite improvement. He also observed that administration of liver in diabetes led to a diminution or disappearance of the glycosuria and of the polyuria. The patient's general condition was improved even in certain cases in which the glycosuria was not decreased, and the effect of the substance was prolonged over a variable period of time after the cessation of treatment.

Gilbert and Lereboullet[6] were of the opinion that the divergent results of hepatic organotherapy were easy to interpret. In the cases of diabetes with hepatic insufficiency, the extract "tonified" the liver cells and permitted them to store or to utilize a greater quantity of the ingested carbohydrate. When, on the contrary, glycosuria resulted from hepatic hyperfunction, this specific stimulant exaggerated the liver disturbance and resulted in more dysfunction.

Laumonier[7] also noted in certain rare cases that hepatic organotherapy appeared to improve pancreatic diabetes. Lassance[8] made observations in six cases of diabetes mellitus in which there was improvement with hepatic organotherapy. His conclusions were similar to those of Gilbert and Carnot,[9] and Gilbert and Lereboullet.[6] He, too, suggested that it was important to recognize the type of diabetes mellitus before submitting a patient to hepatic organotherapy, which was indicated only in cases of diabetes with hepatic insufficiency.

TABLE 1.—*Diabetic Patients*

	Blood Sugar Levels in Patients Receiving Control Test Meal				Change in Blood Sugar in Nine Hours, Mg.	Blood Sugar Levels in Patients Receiving Test Meal Containing Liver				Decrease in Blood Sugar in Nine Hours, Mg.
		Hours After Test Meal					Hours After Test Meal			
Cases	Fasting	3	6	9		Fasting	3	6	9	
1	170	203	160	140	−30	196	204	133	105	−91
2	161	230	213	177	+16	156	200	170	140	−16
3	218	308	253	182	−36	222	246	181	161	−61
4	162	202	154	141	−21	200	194	129	122	−78
5	153	185	...	...	.....	196	148	138	104	−92
6	153	177	...	...	.....	176	157	133	103	−73
7	143	154	116	122	−21	164	130	105	83	−81
8	188	182	162	140	−48	221	216	174	125	−96
9	235	260	221	174	−61	258	239	204	166	−92
10	174	187	185	165	− 9	260	200	165	138	−122
11	242	236	230	200	−42	261	245	198	166	−95
12	145	136	131	117	−28	174	103	116	98	−76
Average decrease in blood sugar nine hours after test meal without liver.....					33					81

Blood sugar concentration recorded in milligrams per hundred cubic centimeters of blood

Levin[10] mentioned some of the literature on liver therapy in diseases, and gave his observations on the effect of a soluble extract of fresh bovine liver. He injected the extract into four patients with diabetes, three of whom improved remarkably, while the fourth remained unimproved.

From a review of the literature it is apparent that liver has been tried as a means of treating diabetes. In most instances improvement in the clinical condition of the patient and reduction in the amount of glycosuria have been used as criteria in estimating its effect. In spite of apparently satisfactory results in many instances, liver has been little used in the treatment of diabetes, possibly owing to the difficulty of using a sufficient quantity to obtain definite and striking results.

* From the Medical Service of the Peter Bent Brigham Hospital.

* This study was aided by a grant from the Proctor Fund of the Harvard University Medical School for the study of chronic disease.

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Since the introduction by Banting and Best [11] of insulin for the treatment of diabetes mellitus, many substances have been studied as to their insulin-like effect. Funk and Corbitt,[12] and also Winter and Smith,[13] demonstrated a blood sugar reducing substance in yeast. Collip [14] found an insulin-like substance in the tissues of the clam (*Mya arenaria*) and later suggested the name glucokinin for a hormone obtained from yeast as well as from certain vegetable substances. Best and Scott,[15] Dubin and Corbitt,[16] Little, Levine and Best,[17] and Fisher and McKinley [18] studied the effect on the blood sugar of extracts of various plants, vegetables and fruit, bacteria grown on insulin-free mediums and the blood of certain animals.

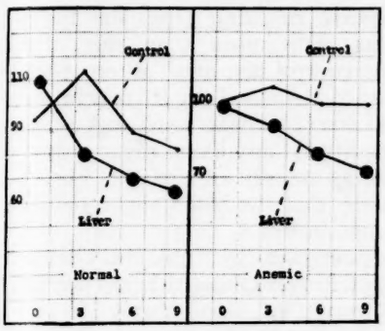

Chart 1.—Characteristic blood sugar curves obtained in normal and in anemic persons on a control test meal of carbohydrate 20 Gm., protein 40 Gm., fat 35 Gm. (no liver) and a liver test meal of carbohydrate 20 Gm., protein 40 Gm., fat 35 Gm. (including liver). In all the charts the blood sugar is recorded in milligrams per hundred cubic centimeters of blood. Excepting in charts 6 and 7, the time interval is recorded in hours.

Allen [19] has studied an extract prepared from blueberry leaves (myrtillin), which, when given either by mouth or intravenously, is thought to enhance the value of insulin in the reduction of the blood sugar both in depancreatized dogs and when used in the treatment of diabetes in the human being. The effect of this extract is delayed, and it does not produce hypoglycemia even in excessive doses. Mills [20] obtained slight reduction in glycosuria by means of an acid-alcoholic extract of certain plants rich in vitamin B administered by mouth.

PLAN OF INVESTIGATION

The observations reported here were obtained according to the following procedure: The blood sugar concentration was determined in a morning fasting specimen, and usually three, six and nine hours following the ingestion of a uniform test meal, containing 20 Gm. of carbohydrate, 40 Gm. of protein and 35 Gm. of fat, the protein being largely supplied in the form of red muscle meat. On another day, the blood sugar levels were determined at the same intervals, the test meal now containing 180 Gm. of raw liver pulp,[21] with the total amount of carbohydrate, protein and fat adjusted to be identical with the control test meal already mentioned. Calf's liver was used in each instance and calculations were made on the basis of a food content of no carbohydrate, 19 per cent of protein and 5 per cent of fat. The blood sugar determinations were made on 2 cc. blood samples, according to the method of Folin and Wu.[22]

BLOOD SUGAR CURVES IN NONDIABETIC PERSONS

Characteristic blood sugar curves obtained in anemic and normal persons are shown in chart 1. In these nondiabetic subjects the blood sugar concentration nine hours after the control test meal was usually at about the same level as was the fasting blood sugar. On the other hand, the blood sugar level nine hours after the test meal containing liver was from 10 to 46 mg. lower than the fasting blood sugar level, the average decrease being 26 mg. The lowest blood sugar concentration found in any one of the nondiabetic persons nine hours after the test meal containing liver was 65 mg.

BLOOD SUGAR CURVES IN DIABETIC PATIENTS

In the diabetic patients, the blood sugar level nine hours after the control test meal varied from 16 mg. above to 48 mg. below the fasting blood sugar level; the average drop in the blood sugar concentration during this period for the nine cases showing a drop was 33 mg.

The blood sugar curves obtained after the administration of the test meal containing liver were quite different. There was a marked fall in the blood sugar concentration, which varied from 16 to 122 mg.; the average fall amounted to 81 mg. below the fasting blood sugar level. Blood sugar curves characteristic of this group are shown in chart 2.

The record of the blood sugar determinations in twelve diabetic patients is given in table 1. Three hours following the control test meal, nine of the twelve patients showed an increase in blood sugar varying from 11 to 90 mg., whereas only three showed a decrease varying from 6 to 9 mg. In contrast to this, three hours following the test meal containing liver, nine of the patients showed a decrease in blood sugar varying from 5 to 71 mg., whereas only three showed an increase in blood sugar varying from 8 to 44 mg. In the three cases in which there was a rise in the blood sugar three hours after the liver test meal, the rise was distinctly less than the rise in the corresponding blood sugar after the control test meal.

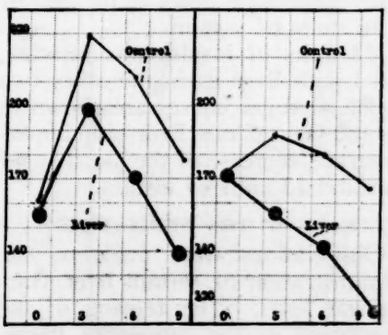

Chart 2.—Blood sugar curves in diabetic patients obtained after the administration of the test meals.

Hunger, headache of varying intensity and slight dizziness were outstanding complaints which all of the patients made six and nine hours after the liver test meal. These symptoms were not noticeable following the control test meal, and it is possible that they were due to a rapid lowering of the blood sugar level.

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RELATIVE EFFECTS OF INSULIN AND LIVER

A comparison was made of the relative effects of insulin, liver and various liver extracts on the blood sugar level in certain cases. The blood sugar determinations were made at the same time intervals as in the previous experiments. In the experiments with insulin, the desired dose was injected subcutaneously, following which the control test meal was given. The experiments

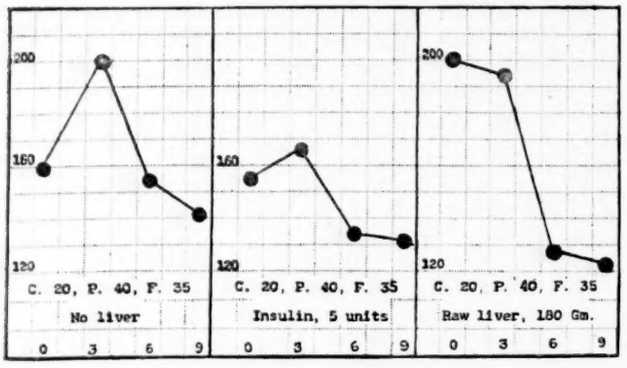

Chart 3.—Relative effects of 5 units of insulin and of 180 Gm. of raw liver in Mr. A. C. S., a patient with diabetes.

were conducted within a few days of each other, the patients meanwhile eating fairly constant diets.

In the first case 5 units of insulin was injected. The resulting blood sugar curve is shown in chart 3. This curve was similar to that obtained in the control test, except that the rise in blood sugar three hours after the injection of insulin was less than the rise at the corresponding interval in the control test. The difference between the fasting and nine hour blood sugar levels was slight. The blood sugar curve following the liver test meal is also shown and demonstrates the fact that in this instance 180 Gm. of raw liver pulp apparently caused a more marked drop in the blood sugar than did 5 units of insulin.

In the second case 10 units of insulin was injected, and its effect compared with that of liver. The blood sugar curves are shown in chart 4. In this case 180 Gm. of raw liver pulp apparently caused a slightly greater decrease in the blood sugar level at the end of nine hours than did 10 units of insulin.

In the third case, 13 units of insulin was injected, and its effect compared with liver as in the other two cases. The resulting blood sugar curves are shown in chart 5. In this case 180 Gm. of raw liver pulp apparently caused a more marked decrease of the blood sugar within nine hours than did 13 units of insulin.

RELATIVE EFFECTS OF OTHER SUBSTANCES

Liver Extracts.—Observations were made on the effect of the oral administration of certain liver fractions on the blood sugar level. The feeding of the fractions of liver composed of the connective tissue, insoluble fats and the liver proteins precipitated at p_H 5, described by Cohn and his associates,[23] resulted in blood sugar curves similar to those obtained after the feeding of whole liver. These experiments suggest that this fraction contains the blood sugar reducing substance. This fraction is ineffective in the treatment of pernicious anemia.

Another liver fraction prepared by Cohn,[23] known as fraction G, was tested in a similar manner. This fraction was effective in the treatment of pernicious anemia but appeared to contain an inappreciable amount of blood sugar reducing substances.

Pancreas.—An attempt was made to determine whether or not the effect obtained by the ingestion of liver was due to insulin, which might be contained therein. With this in mind, 360 Gm. of raw pancreas included in a test meal was given to two diabetic patients, and its effect on the blood sugar was compared with that of liver, insulin and the control meal. The blood sugar decrease resulting from the feeding of raw pancreas was little more than that which occurred following the control test meal, whereas there was a greater lowering of the blood sugar concentration with both insulin and liver. These tests suggest that pancreas contains very little if any blood sugar reducing substance when taken by mouth. From this observation it would seem likely that the blood sugar reducing substance in liver is not insulin.

Vitamin B.—It was suggested by Funk and Corbitt [12] and by Mills [20] that certain substances rich in vitamin B had some effect on lowering the blood sugar. In order to determine whether or not the blood sugar reducing effect of liver was due to its vitamin B content, we observed the effect of feeding Vegex and brewers' yeast in two cases. In each case the test meal was the same as the control meal, with the exception that 240 Gm. of Vegex was added in one case and 110 Gm. of brewers' yeast in the second. No demonstrable blood sugar reducing effect was observed following the use of these substances.

CLINICAL USE OF LIVER

As the result of these experiments, it is reasonable to conclude that liver contains a blood sugar reducing substance. We have attempted to determine whether or not this fact can be made of clinical value in the treatment of diabetes. In order to study this phase of the problem, we have observed a group of diabetic patients who were given large doses of liver each day or several times a week over a varying interval of time.

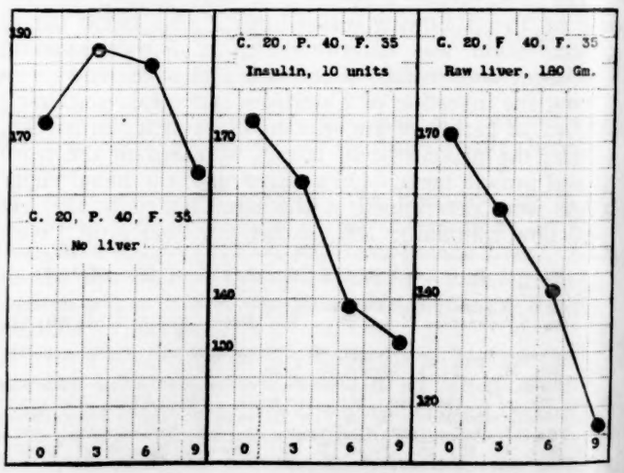

Chart 4.—Effect of insulin, 10 units, and of liver in Mr. M. P., a patient with diabetes.

These diabetic patients on admission to the hospital were maintained for a control time interval on a constant diet containing no liver. The fasting blood sugar was determined frequently. When it was felt that the blood sugar had reached a fairly constant level, 180 Gm. of raw liver pulp was included in the diet, so that the total amount of carbohydrate, protein and fat remained

23. Cohn, E. J.; Minot, G. R.; Fulton, J. F.; Ulrichs, H. F.; Sargent, F. C.; Weare, J. H., and Murphy, W. P.: The Nature of the Material in Liver Effective in Pernicious Anemia: I. J. Biol. Chem. **74**: 69, 1927.

the same as during the control period. The liver was given in two doses. The blood sugar curve obtained in one such case is shown in chart 6.

In this case in ten days the daily fasting blood sugar varied from 261 to 183 mg. on a constant diet containing 100 Gm. of carbohydrate, 70 Gm. of protein, and 130 Gm. of fat. On the tenth day when the fasting blood sugar was 204 mg., liver was included in the diet. The blood sugar decreased so that it was 165 mg. on the second day, and 120 mg. on the third day. Then, as the amount of liver was decreased, the blood sugar level again rose to 180 mg. The sugar concentration in the urine in this case, as well as in the next three cases, varied from 1 to 2 per cent when liver treatment was started. The urine became sugar free in each instance as the blood sugar dropped during the course of treatment.

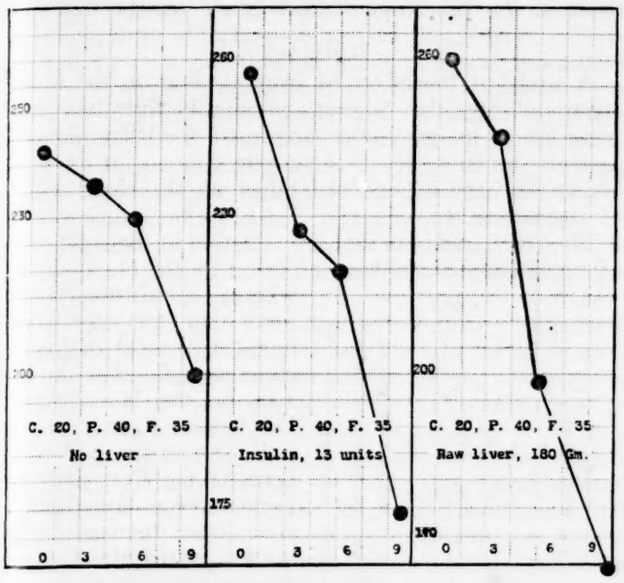

Chart 5.—Comparison of effects of insulin, 13 units, and of liver.

Chart 7 shows the blood sugar curve of a second diabetic patient before and after taking liver. This patient was given a diet containing 120 Gm. of carbohydrate, 80 Gm. of protein, and 130 Gm. of fat without liver for ten days, during which time the blood sugar concentration varied from 260 to 180 mg. One hundred and eighty grams of liver was then included in the diet for seven days. This was divided into two doses of 90 Gm. each, given morning and noon. During this time the blood sugar remained at a level of approximately 195 mg. The same amount of liver was then given morning and night with the result that the blood sugar began to decrease, reaching its lowest mark of 110 mg. seven days after this change. When the liver in the diet was replaced by muscle meat, the blood sugar began to increase and varied from 150 to 180 mg. The patient was discharged from the hospital, July 5, 1927, with instructions to eat one-half pound (0.2 Kg.) of liver three or four times a week. As a result of such treatment the blood sugar level four months later, Nov. 22, 1927, was 130 mg.

The third diabetic patient entered the hospital, Sept. 20, 1927, with a blood sugar concentration of 180 mg., after having been on a starvation diet for several days previously. On a diet containing 120 Gm. of carbohydrate, 60 Gm. of protein and 120 Gm. of fat, the blood sugar concentration rose to 320 mg. Because of such a marked hyperglycemia, the carbohydrate content of the diet was decreased to 90 Gm. The blood sugar level then varied from 180 to 218 mg. during a period of ten days, when liver was included in the diet. The blood sugar level then began to drop, and became as low as 112 mg. Liver was omitted after having been taken for ten days. The blood sugar concentration then increased to 148 mg. When liver feeding was again resumed, the blood sugar level dropped to 93 mg. and continued to remain at a level of from 90 to 110 mg. for four months, except on Thanksgiving Day, when it rose to 128 mg. as a result of overeating. March 16, 1928, the diet was increased to 150 Gm. of carbohydrate, 40 Gm. of protein and 120 Gm. of fat. The blood sugar level continued between approximately 90 and 110 mg. for eleven weeks, dropping on two occasions to as low as 80 mg. The diet was then increased, June 5, 1928, to contain 200 Gm. of carbohydrate, 90 Gm. of protein and 120 Gm. of fat. The blood sugar concentration remained at a level of 100 mg. until June 29, 1928. Then the diet was increased to one containing 250 Gm. of carbohydrate, 100 Gm. of protein and 120 Gm. of fat, and weekly blood sugar levels continued to vary from 80 to 100 mg. In all, this patient has been observed for one year with daily fasting blood sugar determinations for the first month; during the remainder of the year, the blood sugar observations were made approximately once or twice a week. During the year the patient took one-half pound of liver daily. There was a gain in weight of 22 pounds (10 Kg.) between March 23 and September 21.

The fourth diabetic patient had been under observation in the outpatient department of the hospital since 1920, during which time the diet was kept at a low level. Under this treatment sugar appeared in the urine from time to time. April 27, 1927, there was sugar $+++$ in the urine after the patient had been on a diet of carbohydrate, 70 Gm., protein 70 Gm. and fat 120 Gm. for some time. On this day insulin in a dosage of 10, 0 and 10 units was started. May 18, 1927, the urine was sugar-free. The patient continued to take the same dose of insulin and the fasting blood sugar levels were as follows: May 23, 1927, 188 mg.; May 24, 196 mg.; May 26, 221 mg., and May 31, 184 mg.

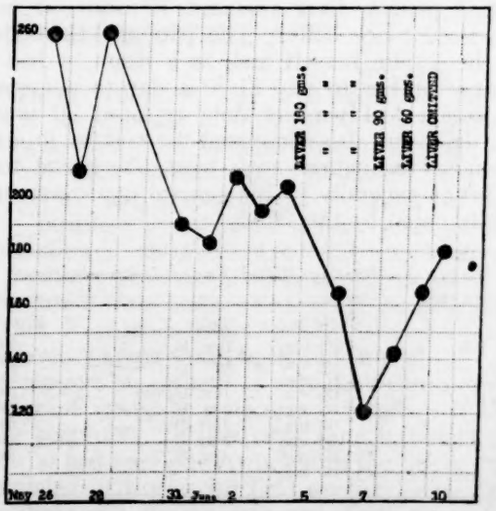

Chart 6.—Blood sugar curve before and after liver diet in a patient, Mrs. S. A., with diabetes, on a daily diet of carbohydrate, 100 gm.; protein, 70 Gm.; fat, 130 Gm.

September 14, a note was made to the effect that the patient had had to take insulin in a dosage of 10, 0 and 10 units for the past four and one-half months to keep sugar free. If insulin was omitted or decreased, sugar appeared in the urine. The diet was increased to carbohydrate 100 Gm., protein 70 Gm. and fat 150 Gm., and the patient began to eat about one-half pound of liver three or four times a week, continuing to take the insulin.

November 9, the patient reported that she felt much better since taking liver three or four times a week. Insulin had been omitted for a week without sugar appearing in the urine. The urine continued to remain sugar-free while she was taking about one-half pound of liver from three to four times a week without insulin. Table 2 is a record of the fasting blood sugar determinations during the period of observation with liver.

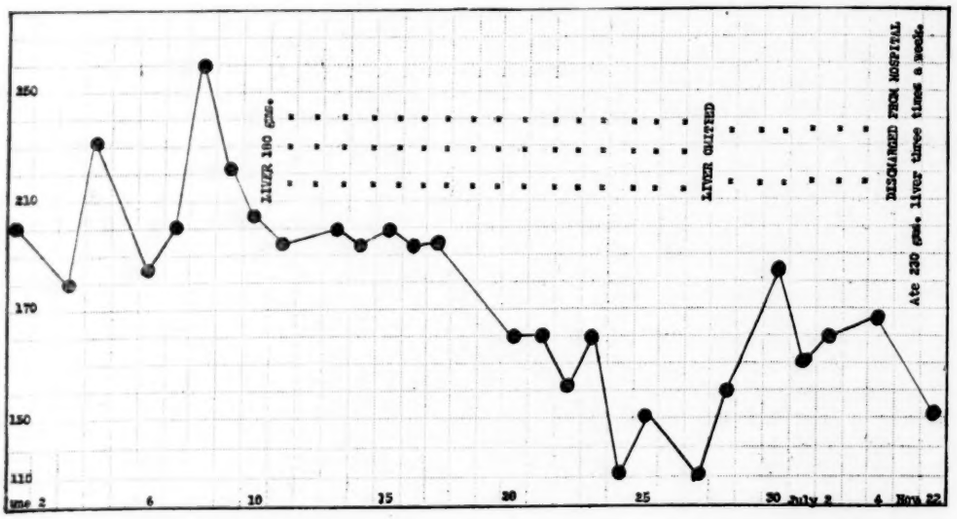

Chart 7.—Curve before and after liver diet in Mr. S. C., a patient with diabetes, on a daily diet of carbohydrate, 120 Gm.; protein, 80 Gm.; fat, 130.

In this patient, liver replaced 10 units of insulin administered twice daily. The patient was unable to inject the insulin herself and, as a result, it had been necessary for her to pay $1.50 a day to a nurse for the injections. Liver not only replaced 20 units of insulin daily but also eliminated the cost of injections. As soon as the patient took liver, she began to feel much better generally. This general improvement was especially noted by the family.

TABLE 2.—*Fasting Blood Sugar Determinations*

Date	Blood Sugar	Date	Blood Sugar
Nov. 11, 1927	181 mg.	Dec. 13	146 mg.
Nov. 15	148 mg.	Dec. 20	150 mg.
Nov. 18	175 mg.	Dec. 27	156 mg.
Nov. 22	175 mg.	Jan. 10, 1928	169 mg.
Nov. 25	143 mg.	Jan. 17	150 mg.
Nov. 29	167 mg.	July 24	150 mg.
Dec. 2	157 mg.	July 27	136 mg.
Dec. 6	161 mg.	Aug. 31	138 mg.
Dec. 9	157 mg.		

The fifth patient had a mild form of diabetes. Observations on the fasting blood sugar levels were made daily for five weeks. The blood sugar in this case dropped when liver was included in the diet. When liver was omitted, the blood sugar again rose to its previous level. This experiment was repeated twice on this patient with similar results. Glycosuria was not present during the period of observation.

The sixth diabetic patient was observed with frequent blood sugar determinations for ten months with results similar to those in the preceding cases.

Seven other diabetic patients have been fed liver over a period of months, but the effect has not been checked by blood sugar determinations. A general improvement in the condition of this group has been noted.

SUMMARY

A study of the effect of liver feeding on the blood sugar indicates that whereas previously liver has been regarded as an unsuitable article of food for diabetic patients because of its glycogen content, it is now known to have a beneficial effect on the blood sugar of these patients.

The liver fractions that are effective in the treatment of pernicious anemia have no effect on the blood sugar, whereas certain liver fractions that are ineffective in the treatment of pernicious anemia have an effect on the blood sugar like that of liver.

Four patients with diabetes taking liver daily or from three to five times a week have been observed with repeated blood sugar determinations for approximately one year, while in two who were followed for twenty and thirty days it was found that the blood sugar has remained at a constantly lower level than previous to liver therapy.

These observations suggest that liver contains a blood sugar reducing substance active when taken by mouth, nontoxic, and with an effect on the blood sugar concentration similar to that obtained with insulin.

It is difficult to estimate the quantity of liver that will replace a known amount of insulin, but we feel that 180 Gm. of liver will have an effect on the blood sugar of certain diabetic patients equal to that of from 10 to 15 units of insulin.

Anger in Different Individuals.—To say that an individual is phlegmatic is to imply that he reacts with less than the average amount of emotional behavior to varying situations. It is to be noted that there is no necessary relationship between the inner emotional life of the individual and the external behavior which would express the emotion. In a given situation several individuals may become angry. One of these explodes into verbal abuse; another begins an actual fight; a third may change color, tense the lips and say or do nothing; while a fourth may laugh. Each may, so far as one can judge, feel the same intensity of emotion but behavior in these situations is conditioned in different directions. Of the first two we should be apt to say that they had explosive tempers; of the third that he had not much temper and was well controlled, and of the fourth that he had a very easy going temper. In other words, our judgments are usually based on rather superficial, external points in behavior which we compare with some standard we have set up for ourselves. We usually base this standard on our own estimate of our own reactions to such stimuli, since, after all, the only individual whom we know at all well is the self.—Lowrey, L. G.: The Study of Personality, *Am. J. Psychiat.*, January, 1929.

THE RATES OF LOSS AND ACQUISITION OF HOOKWORMS

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The rapidity with which hookworms are lost from the intestine of a human host in the absence of reinfestation is a question of great practical importance. If, as Smillie [1] predicated in 1922, hookworms are slowly acquired and slowly lost, it would mean that improvement in the level of hookworm infestation would follow sanitary reforms rather slowly, whereas such improvement would follow rapidly and have a long-lasting effect after anthelmintic treatment. It would mean also that even in countries with a dry season of from four to six months' duration a mass treatment at any time of the year would be effective, whereas the effect of the dry period during which reinfestation was practically stopped would be of no practical consequence beyond reducing the number of months of the year during which hookworms could be acquired to six or eight instead of twelve.

If, on the other hand, hookworms are rapidly acquired and rapidly lost, it would mean that sanitary reforms would be followed by a rapid lowering of the level of infestation, whereas anthelmintic treatment without improvement in conditions tending to prevent reinfestation would be followed by a temporary lowering of the hookworm level. In countries with a prolonged dry season, the cessation of reinfestation would result in a rapid loss of worms during that season comparable with the effect of a moderately effective anthelmintic treatment. In such a place, if the treatment should be given during the dry season when the ground was practically sterile from the point of view of hookworm larvae, reinfestation would be slow even after the beginning of the favorable season, on account of the relatively small number of eggs that would reach the soil to develop into infective larvae. On the other hand, if the treatment should be given toward the end of the favorable season, when the ground was already heavily infested with larvae, the degree of reinfestation which could take place would depend directly on the rapidity with which infections were normally acquired. If slow, as Smillie believes, no considerable reestablishment of infestation would occur in one or even in two or three seasons; if rapid, a fairly high percentage of the original infestation might be reacquired in a few months.

It can, I think, be safely assumed, since hookworm infestations in a community eventually reach an equilibrium and the average intensity does not greatly change from year to year after adult age has been reached, that the acquisition and loss of hookworms proceed at approximately equal rates, as long as such factors as diet, habits and environment remain unchanged. These factors are not the same in children of different ages or in children as compared with adults, and the gradual increase in the degree of infestation up to early adult life can probably be attributed to such changing factors. Children are as a rule much more promiscuous and irregular in habits as regards places of defecation than are adults; they roam far and wide and attend to the duties of nature at irregular times and irregular places, as a result of which they do not come in contact with the heavily infested soil areas of regularly visited defecation sites so often as do adults with more fixed habits.

Smillie's contention that hookworms are slowly acquired and slowly lost is based largely on the gradual increase in infestation during childhood. Since the average number of worms increases year by year, from the fourth to the tenth year, to sixty worms, Smillie concludes that the sixty worms represent six years of accumulated infestation, or an average of ten worms a year. It is obvious, however, that the worms harbored at any age period merely represent the net number of worms; i. e,. the difference between the number acquired and the number lost, whether the acquisition and loss is slow or rapid. These figures may be construed merely as showing that the number of hookworms acquired during childhood is greater than the number lost by an average of ten worms a year. Smillie's [1] chart 6 does not support his views on slow acquisition. As soon as the children begin working in the fields at about 8 years of age, the number of hookworms infesting them jumps from fifteen to more than a hundred in one year. By the age of 13 or 14 years, according to this chart, they have an average net number of worms approaching 300, whereas the average for adults Smillie gives as 230. His statement, therefore, that the child working in the fields does not reach the adult level of infestation until he is 20 years old is not in accordance with the facts. Smillie also supports his hypothesis by the rate of exchange of ancylostome for necator infections in Japanese colonists, but here again his figures are open to the opposite interpretation. In Japanese colonists who had been in Brazil two years or less and had had little contact with Brazilians, the average number of ancylostomes was 9.6 and of necators 14.1. Japanese who had been four years or more in Brazil showed an average of 2.3 ancylostomes and 233 necators, a net acquisition of 219 necators in two years, just a little under the average number harbored by adult Brazilians, which Smillie elsewhere assumes it required sixteen years to accumulate.

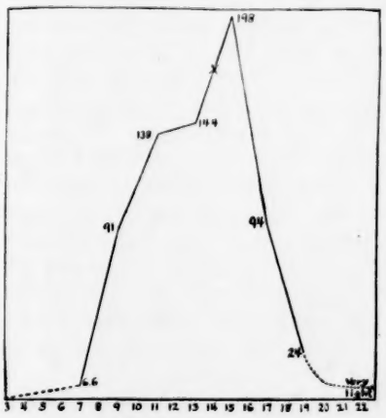

Chart 1.—Intensity of infestation in Alabama school children in various age groups. Wearing of shoes begins at 14 years.

To support his contention that hookworms are slowly lost (which would be a necessary corollary if they are slowly acquired), Smillie cites four instances of persons who had previously worked in the fields, the average number of worms for field workers being 390, who after three and four years away from the fields still harbored from 223 to 379 worms. Although it is stated that they lived under good hygienic conditions, one cannot feel by any means confident that these persons could not and did not keep up their infestations by contact with larvae developing from their own stools. Smillie and Augustine [2] adduce powerful evidence in

1. Smillie, W. G.: Studies on Hookworm Infection in Brazil, 1918-1920, Second Paper, Monograph 17, Rockefeller Institute for Medical Research, 1922.

2. Smillie, W. G., and Augustine, D. L.: Intensity of Hookworm Infestation in Alabama, J. A. M. A. 85: 1958-1963 (Dec. 19) 1925.

opposition to the senior author's views. Chart 1, plotted from their data, shows the curve for the intensity of infestation at various age periods in children in Alabama. The maximum is reached in the 14 to 15 year age period, with an average of 198 worms. In the next biennial period it drops sharply to ninety-four, and in the next period to twenty-four, a reduction of 87.5 per cent in four years, which closely approaches my [3] finding of 90 per cent loss of worms in four years in the absence of reinfestation.

Smillie and Augustine believe that "the remarkable universal decrease in hookworm intensity in Alabama children is due to the custom of beginning the constant use of shoes at about 14 years among the whites, a little later among the negroes. No new infestation is acquired, and the old parasites gradually die out in from three to five years." The authors state that these figures support their contention that hookworms are slowly acquired and slowly lost. But no one can doubt that if the habit of wearing shoes came at the same age in every person, and the biennial periods were broken at the time of this change in habit, the curve for loss of worms would be much more striking. If 14 is the usual age for the adoption of shoes, there must be many persons wearing shoes included in the 14 to 15 year biennial period without whom the average infestation would be higher than 198. There must also be some in the 16 to 17 year period who have not yet begun wearing shoes, without whom the average infestation would be lower than ninety-four. Whereas Smillie and Augustine record a loss of more than 52 per cent of worms between the 14 to 15 and the 16 to 17 year groups, this does not fairly represent the loss of worms in the presence of greatly reduced infestation in two years. If the persons at the end of the barefooted age were compared with those who had worn shoes for two full years, it is likely that a loss nearly approaching my finding of an 80 per cent loss in two years would have been observed.

During the course of my work on the epidemiology of hookworm infestations in India, a number of epidemiologic facts presented themselves which led me to believe that the hookworm equilibrium of a community was maintained not by a slow acquisition and slow loss of worms but by a rapid acquisition and corresponding rapid loss of worms; in other words, a rapid exchange each year of old worms for new ones. The facts involved are principally as follows:

1. On the tea gardens of northern Bengal, and also in villages near Calcutta, where climatic conditions were such as to preclude any appreciable acquisition of infestation during from four to six months of the year, complaints of symptoms referable to hookworm infestation were far more frequent on the tea gardens, and occurred exclusively in the villages near Calcutta, at the end of, and just after, the wet season when hookworms could be acquired. Even if, as Stoll has suggested in correspondence, this might be attributed to the greater acuteness of symptoms while the worms were becoming established in the intestine, it indicated an appreciable annual acquisition of worms. In the absence of an increasing equilibrium of infestation, there must have been a corresponding loss of worms during the intervening dry seasons.

2. In spite of habits and soil conditions which one would expect to lead to heavy hookworm infestations, no such infestations exist in places where the climate is such as practically to preclude the possibility of appreciable acquisition of infestation for six months or more in the year. For instance, throughout the whole of the Bengal plains and the adjacent parts of the neighboring provinces of India (over an area embracing more than 200,000 square miles) where for the most part habits are ideal for severe hookworm infestations and the soil, an alluvial mixture of sand and clay in various proportions, was found experimentally to be highly favorable for larval development, the degree of infestation is astonishingly low, although the incidence averages over 80 per cent and is in many places almost 100 per cent.

The degree of infestation corresponds with what is found in a heavily infested area after a successful treatment compaign; the average intensity on the basis of the normal mushy Indian stools is well under 200 eggs per gram. In the upper Sylhet Valley, where there are only four unfavorable months in the year, the average is about 850 eggs per gram. In central India and other localities with eight or nine unfavorable months the average intensity is not more than fifty eggs per gram. Throughout India it was observed that the falling off in the intensity of infestation as compared with that of localities with longer favorable seasons, other factors being equal as far as could be judged, was not in proportion to the mere difference in the number of months during which hookworms could be acquired but indicated rather the lack of a cumulative increase. It can be stated with certainty that there was nothing in the habits of the people that could account for the differences observed; the soil, at least so far as texture and hydrogen ion concentration are concerned, appeared to be equally favorable in many of the localities, and there did not appear to be any uniform difference in the diet between the localities with long and those with short wet seasons which could have influenced the intensity of the infestations.

3. East Indians living in countries with long wet seasons, as in parts of Malaya, Ceylon, the West Indies, and in some of the East Indies, often have heavy infestations, so much so as to have led to international interest in hookworm in India, whence the massive infestations were supposed to have been transported to the other countries with indentured labor. Extensive investigation in India, however, has revealed the fact, beyond any question, that the same people, with identical habits and equally favorable soil conditions, living where there is a six months dry season, have negligible infestations. Another fact of similar import is that although heavy and injurious infestations are reported among Indian coolies in the East Indies and Ceylon, 95 per cent of reemigrating coolies, after a year's residence in South India, are in good health, and the majority have worm counts below fifty. The average worm counts for South Indian coolies in Malaya, according to Darling, Barber and Hacker,[4] exceeds 100. On the other hand, Acton [5] found a rapid diminution in the number of East Indians in the Mesopotamian expeditionary force in whose stools ova could be found by the simple smear method, after they had lived under conditions that made reinfestation improbable.

4. After anthelmintic treatment, without sanitary reforms, hookworm infestations are quickly reestab-

3. Chandler, A. C.: The Rate of Loss of Hookworms in the Absence of Reinfections, Indian J. M. Research **13**: 625-634 (Jan.) 1926.

4. Darling, S. T.; Barbar, M. A., and Hacker, H. P.: Hookworm and Malaria Research in Malaya, Java and the Fiji Islands, Rep. of Uncinaria Comm. to the Orient, 1915-1917, Pub. 9, Internat. Health Bd., 1920.

5. Acton, H. W.: The Incidence and Importance of Intestinal Entozoa Amongst Indian Members of the Mesopotamian Expeditionary Force, Indian J. M. Research **6**: 591 (April) 1919.

lished. Hill,[6] studying a small group on an estate in Porto Rico which had been investigated a year before by Cort, Payne and Riley,[7] where reinfestation could and did occur from outside untreated persons, found that the hookworm intensity had risen in one year to more than half of what it was before treatment. Hill [8] later studied the condition in a more or less isolated valley in Porto Rico where there was a very heavy infestation. He intensively treated a group of 1,000 persons until the majority were cured, and reduced the average infestation from 8,330 eggs per gram to 330; i. e., about 97.5 per cent. At the end of one year the average eggs per gram were 1,550, about 19 per cent of the original infestation, and almost 500 per cent of the residual infestation after treatment. At first sight this appears as a comparatively slow return. It must be remembered, however, that this by no means indicates the rapidity of reinfestation under the conditions existing before treatment. Before treatment every stool deposited on the ground contained an average of 8,330 eggs per gram; after treatment the stools contained an average of only 330. Even if the soil was heavily infested with infective hookworm larvae at the time of treatment, it has been demonstrated that under conditions in Porto Rico few larvae survive more than six weeks, and there is a rapid mortality even after one week. One may assume that 83 x larvae were acquired daily for the first few weeks after treatment, this number gradually decreasing to 3 x at the end of six weeks. At the end of that time some of the new crop of worms would begin ovipositing and the rate of acquisition would gradually rise again as the soil infestation increased, reaching 15 x at the end of a year. But under the conditions existing before treatment, the rate of acquisition would have been steadily 83 x. The rate of reinfestation after treatment can never be an accurate measure of the normal rate of reinfestation when the infestation is at an equilibrium. It must always be smaller, in proportion to the amount of reduction of soil infestation. Since in most localities a person is usually more subject to reinfestation from his own stools than from those of others, even scattered treated individuals in an untreated community would be likely to show a slower reinfestation than they would have been subject to if untreated.

There is a further point of interest in Hill's [8] study of reinfestation after treatment. His curve of reinfestation for different age groups is a duplicate in miniature of the curve of original infestation in the different age groups. The highest rate of reinfestation occurred in middle adult life, at the very time of life when the heaviest infestations were found in the normal population.[9] In other words, here is direct proof that young adults acquire infestations more rapidly than children. It may be assumed, therefore, that they owe their heavier infestations to this fact rather than to a gradual accumulation of worms through the years, as Smillie suggested.

5. In the survey of hookworm infestation in India, we observed that the amount of hookworm that we found by our survey methods in different localities tallied closely with what we could predict from a study of climate, soil and habits, in comparison with neighboring localities, provided the surveys were made at the same seasons; when they were made at different seasons the results were not what we would have expected. The assumption of a rapid loss of worms during a season when reinfestation was stopped brought the results strikingly into line with our expectations.

No other assumption than that there is a rapid loss of hookworms and an equally rapid replacement by new ones seems to me adequate to explain all these facts. I was unable to find any direct experimental evidence in support of this view except some work done by Mhaskar [10] on inmates in a jail in South India. He counted worms after anthelmintic treatment and found that the number of worms recovered showed a marked drop within the first few months of confinement in jail, and a progressive but slower drop thereafter. Even allowing for the well known difficulties in making accurate worm counts and the probability that not all the worms were recovered, I do not know of any reason why the error should not be evenly distributed and have little effect on the general form of the curve. I am myself familiar with Indian prisons and the manner in which experimental patients are segregated, and do not believe that there is any factor connected with increasing residence in jail which would tend to make the worm counts less accurate.

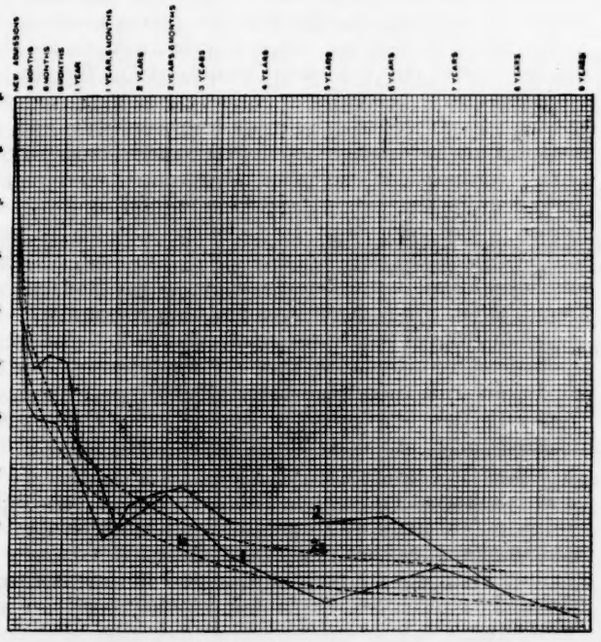

Chart 2.—Results of egg counts on 915 inmates of a Calcutta jail.

In order to test the matter further, I made egg counts on 915 inmates of a jail in Calcutta, and divided them into groups according to length of residence in the jail; there were more than 100 in each group except the one of residents of more than six years. The incoming population of the jail does not vary much from year to year; it consists of people from Calcutta and the neighboring parts of Bengal. We examined 123 new prisoners and found the average eggs per gram, including negative counts, to be 758. All of these examinations were made at the time of year when

6. Hill, R. B.: Hookworm Reinfestation in Sanitated and Unsanitated Areas, South. M. J. **18**: 665-668 (Sept.) 1925.

7. Cort, W. W.; Payne, G. C.; and Riley, W. A.: Investigations on the Control of Hookworm Disease: XXVIII. A Study of a Heavily Infested Group of People on a Sugar and Coffee Estate in Porto Rico, Before and After Treatment, Am. J. Hygiene (supp.) **3**: 85-110 (July) 1923.

8. Hill, R. B.: Hookworm Infestation in an Unsanitated District, After an Intensive Treatment Campaign, J. Prev. Med. **1**: 537-545 (Nov.) 1927.

9. Hill (footnote 8), curve on page 543.

10. Mhaskar, K. S.: Hookworm Infection and Sanitation, Indian J. M. Research **8**: 398-406 (Oct.) 1920.

the maximum infestation would be expected, i. e., within about from six weeks to two months after the cessation of the rains. The other jail-age groups were examined at such a time as to make their entrance time approximately the same until beyond the two year period, after which they were taken regardless of season of entrance. The results are shown in chart 2. Curve 1 on this chart represents the diminution in average eggs per gram as actually found, and curve 1 *a* a hypothetic smooth curve suggested by the points plotted. The average number of eggs per gram at the time of admission is taken as 100 per cent. Curve 2 shows the results of Mhaskar's worm count data in a South Indian jail, with the corresponding smooth curve, 2 *a*. It will be seen that, according to my results, 50 per cent of the original infestation was lost in three months, 60 per cent in six months, 70 per cent in one year, 80 per cent in two years, 92 per cent in five years. The similarity between the curves for Mhaskar's observations based on worm counts and mine based on egg counts is striking, except that the worm count curve in the South Indian jail drops a little more slowly than the egg count curve in the Calcutta jail. The failure of Mhaskar's percentage of infestation to become reduced up to the fifth year of imprisonment, and the presence of infestation even after more than sixteen years' confinement, suggests that some reinfestation was occurring in spite of apparently good sanitary conditions. The curve for the Calcutta jail also suggests that reinfestation was not absolutely stopped, although vastly reduced, since one instance of infestation was found even after twenty years' imprisonment. No probable source of infestation could be discovered under conditions at the time of the inquiry, but the conditions may not have been good in past years, or some of the long-term prisoners who were found infested may at some time have been outside this particular jail compound.

The apparent striking fall in intensity of infestation within a few months, although it was suggested by the epidemiologic evidence adduced here, is contrary to current opinions on the subject, and before it can be accepted, alternative explanations must be carefully considered.

That the fall in egg count is not due to a progressive diminution in egg output by individual female worms with increasing age was demonstrated by determining the average eggs per gram per female worm in a series of newly admitted prisoners at the season of maximum infestation and in a series of prisoners who had been confined for from two to five years. No difference in egg output was observed. Diet could have had little effect in altering the quantity or quality of the stools, since the new subjects examined had been on the jail diet for at least several days before admission. The diet consisted of the usual Bengalee foods, though it may have been more adequate and more regular than the food obtained outside; it can hardly be thought that this would act as an unfavorable condition for hookworms, except so far as it may have raised the resistance of the host. There is no doubt that increased healthiness on the part of the host increases resistance to the effects of hookworm, but it is difficult to see how it could injure the hookworms themselves, especially after they had reached maturity in the intestine.

There is, of course, the possibility that the average egg counts in the 123 new prisoners were abnormally high and do not serve as a fair basis for comparison with the other groups. There is no positive evidence that I know of for believing this to be true, especially in view of the similarity of Mhaskar's observations; but the results cannot be unreservedly accepted until checked by recounts on the same persons after various lengths of time under conditions precluding reinfestation. It should be borne in mind, if my theory of a rapid interchange of worms is assumed to be true, that a high proportion of the worms harbored at the time of admission were only 6 or 8 months old; the curve of loss of worms might be somewhat different in patients in whom the worms had not been seasonally acquired. The disappearance of a large proportion of ovipositing hookworms within a few months, with some persisting for at least six or seven years, if true, indicates that, even after the worms have succeeded in reaching the intestine of the host and have arrived at sexual maturity, their struggle for existence is not ended. Why there should be such a heavy loss of worms within a few months of their establishment in the intestine is difficult to understand. Possibly a considerable proportion of them attach themselves too low down in the intestine and are unable to live for a long time under the unfavorable conditions which they find there. This explanation finds some confirmation in Mhaskar's [11] observation on delayed cures, in which he has shown that patients not infrequently become negative to microscopic examination several weeks after anthelmintic treatment, presumably owing to the worms having been dislodged from their proper position and carried to a lower portion of the intestine, where they succeeded in taking a new hold, and in living and reproducing for a short time. Possibly also only a small percentage of worms, when changing their position in the intestine, instinctively tend to move forward against the peristaltic movements of the intestine, and thus protect themselves against being gradually moved farther back until eventually they find conditions unsuitable and are swept out.

Sarles [12] has recently observed that *Ancylostoma caninum* infestations in young dogs die out in from forty-four to eighty-three weeks. A large percentage of the larvae experimentally fed to puppies developed to maturity, but from 94 to 97 per cent of the worms were lost after six months, a few surviving for as long as twenty-one months. This indicates a curve for loss of worms strikingly like that in man, except that the infestations develop, drop off and die out at a more rapid rate.

Fulleborn, Dios and Zuccarini [13] support my conclusions with respect to loss and acquisition of worms. They observed that men from the northern districts of Corrientes, Argentina, who had resided in the infantry barracks from three to four months, where they were provided with sanitary latrines, harbored at most only half as many worms as the men of similar age in the civil population of the same regions.

It seems to me that there is a considerable weight of evidence, both epidemiologic and experimental, in favor of the general hypothesis of rapid loss and rapid acquisition of hookworms, which warrants its careful consideration by hookworm workers and further efforts to confirm or disprove it. What is needed is a study of a large number of patients with hookworm, received

11. Mhaskar, K. S.: Delayed Cures in the Treatment of Hookworm Infection, Indian J. M. Research **9**: 799 (April) 1922.
12. Sarles, M. P.: A Study of the Length of Life of the Dog Hookworm, Ancylostoma Caninum, abstr. J. Parasitol. **15**: 145 (Dec.) 1928.
13. Fulleborn, F.; Dios, R. L., and Zuccarini, J. A.: Bericht über eine im Auftrage der argentinischen Regierung unternommene Reise nach der Provinz Corrientes und nach Paraguay zum Studium der Hakenwurmbekämpfung, Arch. f. Schiffs- u. Tropen-Hyg. **32**: 441-481, 1928.

into a jail at a season of theoretical maximum infestation, with egg counts made on the same subjects at intervals of a month for a year. It would also be worth while to make intensity surveys of a normal community at different seasons, in a country which had alternating long dry and long wet seasons. The information that could be obtained from such studies would be of great practical value and well worth the effort.

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SOLUTION OF PITUITARY AND RUPTURED UTERUS

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The oxytocic properties of the posterior lobe of the pituitary gland were first described by Dale [1] in 1907. Almost from the first announcement there has been a steady increase in its use. Many different pharmaceutic companies are now manufacturing it under various names. It has been found to be a valuable time saver for the accoucheur and has rendered the use of the obstetric forceps much more infrequent. It often enables the obstetric attendant who is without obstetric forceps, or without the skill to use them, to complete the delivery of his patient. Somewhat like the discovery of ergot, it was hailed as a wonderful aid to the obstetrician.

It was not long, however, after its use was begun until words of warning were sounded. Careful investigators began to report unfavorable effects on both the mother and the child. Some of these were intracranial hemorrhage and asphyxia of the babies, premature separation of the placenta, serious lacerations of the cervix and perineum, serious postpartum hemorrhage, shock and collapse.

Among the results, also, were many cases of rupture of the uterus. Much has been written on this subject. Most of the literature on solution of pituitary deals with warnings as to its dangers, and one can now find articles by a large array of authors who report the unhappy results of this drug. Only now and then does an obstetrician step forth in its defense.

I asked the research department of the American College of Surgeons to trace the literature back to the beginning of the use of solution of pituitary and to inform me of the articles in toto or in synopsis. It did so, and I was greatly surprised at the number of authorities who have written on this subject. Only in the French literature have I found any great effort to defend the use of solution of pituitary in labor, and there the articles were relatively few. Many obstetricians in various parts of the world have had experiences with solution of pituitary which were not to be desired. Not in all cases did rupture of the uterus result, though there were many of these along with other disasters.

Unfortunately, in preparing this paper I found a great deal of indefiniteness in reports of cases and have in many instances been unable with the time and facilities at my disposal to ascertain many needed facts from which to draw conclusions properly. I have, however, made considerable efforts to obtain the reports of cases of ruptured uterus due to solution of pituitary and these are presented in the accompanying table. It was very unsatisfactory often to be unable to learn the dosage used and in many instances even the outcome of the case. Dosage was so infrequently reported as to render conclusions on this point quite useless. A sufficient number of the reports gave the outcome of the cases to show that the mortality from ruptured uterus following the use of solution of pituitary is exceedingly high.

VARIABLE EFFECT OF SOLUTION OF PITUITARY

As the use of this drug became more and more widespread, with accompanying disaster, and it was found that the strength of a given preparation was variable, the manufacturers made praiseworthy efforts to standardize it, but as yet there is no perfectly standardized solution of pituitary. It is a powerful drug even when greatly diluted, and no method has yet been developed that will positively insure a given strength. Its pressor action and its action on isolated uterine muscle has been studied thoroughly and much progress has been made toward obtaining a dependable product, but we are still confronted with the fact that two different ampules from the same package may vary widely in their effect on a woman in labor. This fact alone makes for great dangers in its use. Many times obstetricians who are not cognizant of this variation have first given a small dose and then, when no result was noted, have given a larger dose from another container, only to cause extraordinarily violent uterine contractions and possibly a serious outcome.

Too much cannot be said in warning those who persist in using this powerful drug that there is no dependable way of knowing the degree of effect they may expect from it until they try it out on the patient herself.

Its action often begins within four minutes after the hypodermic injection and may continue from twenty to thirty minutes. When the action once starts, it continues without intermission until the force of the drug is spent. There is little or no tendency for its action to simulate the intermittence of physiologic labor pains. It produces a tonicity of the uterus that is often extreme and uninterrupted for many minutes. This action of solution of pituitary has been reported on by large numbers of writers as a clinical observation, and it has further been studied by means of a hydrostatic bag in the uterus connected with a manometer.[2]

The Germans have described this sudden and continuous action of solution of pituitary as a "tempest of pains." Furthermore, there are marked idiosyncrasies to this drug. Even were it well standardized, sufficient study has already been made to show that no two women may safely be expected to respond to its administration in the same manner. When these two facts are considered—idiosyncrasy and lack of standardization—it becomes evident that it is difficult or impossible to say what might be regarded as a safe dose. Deutschman [3] says there is no such thing as a "minimal dose" and that its use is "pernicious, uncertain and dangerous."

ANTIDOTES

What may be used as an antidote to an overdose of this drug? Many suggestions have been offered but none have stood the test of bedside demands. Ether anesthesia falls far short of being of practical value.

1. Dale: J. Physiol. **24**, number 3, 1906; quoted by Maxwell, Alice F.: Uterine Rupture at Term After Pituitary Extract, J. A. M. A. **74**: 1378 (May 15) 1920.

2. Rucker, M. P., and Haskell, C. C.: Dangers of Pituitary Extract, J. A. M. A. **76**: 1390 (May 21) 1921.

3. Deutschman, D.: M. J. & Record (supp.) **121**: 164 (Feb. 4) 1925.

Usually when solution of pituitary has been administered and its effect has started, ether cannot be obtained and given rapidly enough to anesthetize the patient before the harm caused by the drug has been done; but even if it were immediately available, and the patient could be promptly put to sleep, the effect of solution of pituitary on the uterus would continue with little or no abeyance. Most obstetricians have many times seen marked action of this drug on the uterus at cesarean section when the patient is completely under the influence of ether, and the same may be said for other anesthetics.

Chloroform, ethylene and nitrous oxide all fail hopelessly as antidotes to the overaction of this powerful oxytocic. They may relieve the patient from much terrorizing agony, but the uterine contractions continue. Morphine, atropine and scopolamine, too, are quite ineffective in counteracting the uterine contractions produced by solution of pituitary.

Some of the advocates of solution of pituitary have suggested that the obstetrician be ready to inject morphine hypodermically if an overeffect is produced by the pituitary. Unfortunately, the action of solution of pituitary is so prompt that its maximum effect would have been passed before the slower acting morphine could have begun to take effect. Furthermore, as with the general anesthetic, morphine will only allay the pain, not effecting uterine contractions even if administered long enough prior to the solution of pituitary for their actions to have become simultaneous. Therefore when solution of pituitary is once administered, our therapeutic hands are tied; there is no satisfactory antidote.

Some one has suggested the obstetric forceps as being the only hope. My reply would be that the instruments and the proper facilities for their application are rarely available soon enough to make this consideration very often practical under such conditions. To make reasonably sure that forceps may be depended on as an avenue of safety when solution of pituitary is overactive, one should have the patient in the proper position on a delivery table or bed, properly draped and prepared, with all instruments and accessories sterile and ready. Then one would still be delayed until some anesthetic could be administered.

Furthermore, the obstetric attendant must have the skill and ability to do a rather hasty forceps delivery. I maintain that these conditions rarely prevail when solution of pituitary is about to be administered. The obstetrician who is using solution of pituitary is rarely sufficiently cognizant of its dangers to be in such complete readiness to meet emergencies, and I further submit that the physician who has all these conditions fulfilled for forceps delivery had better proceed with the delivery with the forceps and not risk using the solution of pituitary.

REPORT OF CASES FROM THE AUTHOR'S PRACTICE AND FROM THE LITERATURE ILLUSTRATING ACTION OF SOLUTION OF PITUITARY

The following details, from one of my private cases, illustrate the prompt, violent and continuous action of solution of pituitary. In this case a ruptured uterus seemed imminent but was possibly averted by the rapid preparation and carrying out of a forceps delivery.

A secundipara, admitted to the Robert W. Long Hospital, Indianapolis, gave an irrelevant previous history except for the former pregnancy, which went a few days over time and was a forceps delivery. The baby was stillborn, weighing 9 pounds (4 Kg.), and the patient was eleven weeks in bed thereafter. Pelvic examinations were as follows: spines, 22 cm.; crests, 30; trochanters, 33; right oblique, 23; left oblique, 22; external conjugate, 21; depth of symphysis, 5, and transverse of outlet, 9.5. The patient had an old rectocele and cystocele. Blood pressure and urinalyses were normal at several examinations. The patient said that she failed to have good labor pains at the first labor. The present labor lasted indefinitely for thirty-two hours; twice during this period she was given morphine in the hope that she would rest and then have better and more effective contractions. Finally when the pains were very slow and far apart, showing almost complete inertia, a vaginal examination revealed the head engaged, the cervix practically fully dilated, the membranes ruptured, and the position left occipito-anterior. Under these conditions she was given only 2 minims (0.12 cc.) of solution of pituitary. Four minutes later the patient suddenly screamed, took a hand and knee position in bed and writhed in agonizing pains, begging for relief. A ruptured uterus seemed imminent and I ordered her sent to the surgery, where hasty preparations were made for a forceps delivery or a laparotomy. A can of ether was immediately available, and this was freely used while the patient was transferred to the carriage and taken to the surgery. The fetal heart beat, which had been normal, went down to 80, and the uterus remained absolutely tonic for twenty-two minutes, at which time I found the head low enough in the pelvis to permit of a hasty delivery by forceps. The patient was observed by the chief resident and by three interns from the moment of her first scream until we were able to do a forceps delivery. All of the ether was administered that could possibly be administered during that time, yet at no time in the twenty-two minutes did the uterus relax sufficiently for the fetal parts to be palpable. Both mother and baby survived, but I report this as an example of what a very small dose of solution of pituitary is capable of doing.

Recently several articles have been published on induction of labor by means of solution of pituitary. Hirst and Watson are both rather strong advocates of this method of inducing labor at or near term, though the drug is usually administered in connection with quinine, strychnine and castor oil, as solution of pituitary alone is rarely effectual.

Most obstetricians have come to the conclusion that solution of pituitary given as a routine fails to induce labor unless the patient is practically at term or overdue. It seems that it has little power of inducing labor pains prematurely. Many patients, of course, can be thrown into labor at or near term by the proper administration of strychnine, quinine and castor oil, and it is interesting to note that solution of pituitary alone is depended on but rarely by its strongest advocates. In surveying the literature on induction of labor by solution of pituitary, many reports were found of violent overaction of the drug, though in few instances with resultant ruptured uteri. One very interesting case is reported by Carey:[4]

The patient had had a previous cesarean operation because of contracted pelvis, and an elective cesarean operation was decided on before any labor pains had started. Just before the operation was begun, an ampule of solution of pituitary was administered hypodermically. As the abdomen was opened and the uterus was exposed for incision, a sudden strong contraction took place and the old uterine scar gave way. The operator was able to see this rupture take place and the uterine contents were expelled into the abdominal wound. Under these extraordinary conditions it was possible to save both mother and child.

This case goes to show that one is usually not justified at cesarean operations in administering solution of pituitary until the baby is extracted from the uterus or at least until the abdomen is open, the uterus is properly exposed and all possibilities of delay are removed, so

4. Carey, in De Lee: Principles and Practice of Obstetrics, ed. 4, Philadelphia, W. B. Saunders Company, 1924, p. 585.

that there can be no obstacle to quick incision of the uterus and removal of the child. Many obstetricians prefer to delay its use until the baby is removed from the uterus, for even then when delay occurs the uterus has been seen to go into strong contractions and thereby cause some difficulty in removing the placenta.

The following case, reported in a thesis by Dr. Robert Pierson of Indiana University, was observed in St. Vincent's Hospital, Indianapolis, in 1925, by Dr. Foster Hudson, one of my associates in the obstetric department at Indiana University:

A secundipara, aged 21, had had a cesarean section for a generally contracted pelvis two years preceding the present pregnancy, and one year before she had had a miscarriage.

The date of term of the present pregnancy was in doubt, and after lightning pains her physician ordered solution of pituitary for the induction of labor in doses of 0.5 cc. every thirty minutes until six doses were given. Immediately after the first dose the pains were violent. After the second injection the patient described a terrible sensation in the abdomen as if something had "broken loose," and stated that the pain seemed to go "up higher." The contraction ceased. There was marked tenderness throughout the abdomen and absence of fetal heart sounds. The intern was suspicious at this time of ruptured uterus, but the family physician still insisted on giving the solution of pituitary, and two more doses were given without any effect. Shock developed and consultation was called. A laparotomy was performed and the fetus was found to be in the abdominal cavity and also the placenta, with the membranes still intact.

Rather recently there have been published some articles on the administration of solution of pituitary by means of soaking cotton pledgets with the solution and placing them in the nose. There is no doubt that the drug is absorbed in this manner, thereby obviating the necessity of hypodermic injection, but it must be remembered that its action may be expected to be quite the same, except possibly for slower absorption and a longer continued action, and an overdose or overaction from a small dose or an idiosyncrasy may bring about serious results.

Some of the advocates of solution of pituitary in labor have mentioned certain conditions that must be fulfilled before it can be safely given, and other authors in condemning its use have mentioned some of the same as well as other contraindications to its use.

INDICATIONS FOR THE USE OF SOLUTION OF PITUITARY

From the many articles on the use of solution of pituitary in obstetrics, I have been able to assemble the following group of conditions necessary before it should be administered: (1) no disproportion; (2) normal pelvis; (3) membranes ruptured; (4) cervix dilated; (5) lower segment thin (must mean effacement); (6) presentation and position normal; (7) no obstructing tumors; (8) pains weak and declining; (9) no scar in uterus; (10) no atheroma; (11) no eclampsia; (12) no cardiac disease; (13) engagement; (14) muscle not weakened by multiple pregnancies; (15) late in labor (fifty-one); (16) primipara (fifty-five); (17) inertia not complete, and (18) relaxed perineum. There may be some question as to whether these conditions are all imperative, but they have each been mentioned in the articles I have reviewed. Some of these conditions I will take up in detail:

What obstetrician can always tell when there is no disproportion? A few years back, textbooks attempted to designate definitely with pelvic measurements the cases that were suitable for cesarean section, and those in which version or forceps might be used; but today the most competent obstetricians are depending more and more on trial labor, and this can only mean that they do not feel qualified to determine always whether there is a disproportion. Many excellent articles have been published in the last decade showing that trial labors rather than pelvimeters have been the guiding force in determining whether a given patient can be safely delivered by the normal route. If trained obstetricians admit their inability always to rule out disproportion, what hope may be held out for the family physician in his effort to ascertain whether his patient can be delivered by way of the vagina?

It should be borne in mind that a large percentage of women are still being delivered by obstetricians who are poorly trained in scientific obstetrics and I maintain that they are rarely able to decide the problem of disproportion. It requires the height of obstetric skill and a skill that is not claimed by many professors of obstetrics. In most cases a trial labor is given.

Somewhat the same may be said regarding presentation and position. Most men who are trained in obstetrics do not often encounter cases in which they are unable to diagnose presentation and position; yet it is frequently brought to my attention that the general practitioners often fail in their diagnosis. Time and again when called in consultation I have found an occiput posterior position when the attending physician had not discovered the difficulty. Breech, face and shoulder presentations are still often confused, and it is hoping for too much to expect the average general practitioner always to eliminate the dangers of malposition before administering solution of pituitary. Likewise few of them even know what is meant by effacement. They are able to get a fairly good idea as to actual circumferential dilatation, but regarding effacement they are not well informed.

As to obstructing tumors, in one of my private cases I was unable by vaginal, rectal or abdominal examination to ascertain why the baby's head failed to engage when the pelvic measurements were ample and the baby's head was average size and the powers were good. I simply assumed that there was obstruction higher up and did a cesarean section, discovering a fibroid in the posterior wall of the uterus which was large enough to force the head into a position of overriding the pubis but too high to be palpated by vaginal examination. Solution of pituitary would almost certainly have been disastrous in this case; yet by the usual requirements for its use, it might have been used.

Most authors say that before solution of pituitary may be used, the pains should be weak and declining. There can rarely be found a physician who is fearless enough to give solution of pituitary to the woman who is already having good contractions. It seems there can be no doubt that strong pains are a contraindication.

Some obstetricians, however, say that solution of pituitary must not be given in complete inertia. They maintain that secondary inertia means a physiologically exhausted uterine muscle and that in this condition the drug is especially dangerous.

As to engagement, the same may be said as was said about disproportion, presentation and position, and effacement. There are a large number of obstetricians who cannot define engagement and who know little about determining whether engagement has taken place. It is not always easy to say positively that the greatest transverse diameter of the presenting part has passed the pelvic inlet, and I repeat that many obstetric attendants will fall far short of the ability to do so.

In discussing multiple pregnancies as a contraindication to the use of solution of pituitary, I would mention that multiple and frequent pregnancies are often followed by weak and ineffectual contractions, which is exactly the condition in which the patient might seem to need the stimulation of solution of pituitary. If, however, multiple pregnancies are to be considered a contraindication, there will at once be removed from consideration a large percentage of the women who might be given the drug.

Likewise if solution of pituitary is not to be administered late in labor as advocated by one author, another large percentage of the cases in which it might have been thought useful is eliminated. Then, further, if the primipara is removed from the list, the zero limit as to those who may have the drug is being rather closely approached.

Finally, as to contraindications, it might be said that a high percentage of the cases coming to autopsy or hysterectomy after rupture of the uterus due to any cause show pathologic changes in the uterine muscle, such as fatty and hyaline degeneration. It is quite obvious that this condition could not be diagnosed; nevertheless its absence cannot be ruled out and if solution of pituitary is given, a rupture is much more likely to occur.

REPORTED CASES OF RUPTURED UTERUS DUE TO SOLUTION OF PITUITARY

A list of the cases of ruptured uterus occurring in connection with the use of solution of pituitary is given in the accompanying table. In assembling this list, considerable effort was made not to have any duplications. For example, McNeile[5] reports sixteen cases and Dorland[6] reports five cases, as do also Marchand[7] and Marcondes.[8] In each of these cases the author of the paper was reporting cases of others as well as his own and it was in a few instances difficult to make sure that no duplications occurred in the table. However, as will be noted, I have in most instances merely tabulated the cases according to the report of the personal cases of each author, there being many single cases and, in a few instances, two or three personally attended cases.

As my tabulation shows, I have made an attempt to ascertain the dosage used, but unfortunately so many reports failed to state the dosage that conclusions or deductions are not at all possible. Approximately half the reports make no mention of dosage. In nine cases the dose was 1 cc., and in six cases the dose was 0.5 cc. One patient received 4 minims (0.25 cc.), another 5 minims (0.3 cc.) and another a first dose of 4 drops and a subsequent dose of 5½ drops.

In attempting to learn something as to the prognosis in cases of ruptured uteri, one encounters widely different figures. For example, the following mortality rates are given by various authorities: from 30 to 60 per cent; 85 per cent; 42.5 per cent.; 72 per cent, and 53 per cent.

When the cases presented in the table were studied in an effort to determine their outcome, it was again

*Summary of Reported Cases of Ruptured Uterus Due to Solution of Pituitary**

Author	Publication	Amount Used	No. Cases	Recovery	Died	Recovery?
Bourne	Proc. Roy. Soc. Med. **13**: 205 (July) 1920	0.5 cc.	1	0	1	..
Mundell	Proc. Roy. Soc. Med. **13**: 205 (July) 1920	?	7	0	7	..
Grosvenor	Surg. Gynec. Obst. **25**: 221, 1917	4 to 5½ drops	1	0	1	..
McNeile	Am. J. Obst. & Gynec. **74**: 432 (Sept.) 1916	?	16	3	13	..
Dorland	J. A. M. A. **78**: 191 (Jan. 11) 1922	?	5	0	0	5
Maxwell	J. A. M. A. **74**: 1378 (May 15) 1920	5 drops	1	0	1	..
Telfair	Am. J. Obst. & Gynec. **73**: 655 (April) 1916	1 cc.	1	0	0	1
Marchand	Bol. Asoc. med. de Puerto-Rico **14**, March, 1918	?	5	0	5	..
Rucker	J. A. M. A. **76**: 1390 (May 21) 1921	?	3	0	3	..
Sherrill	South. Surg. Tr. **38**: 137, 1925	0.5 cc.	1	0	1	..
Hall	Tr. Am. A. Obst. & Gynec. **29**: 15, 1916	?	1	1	0	..
Goodman	South. Surg. Tr. **38**: 127, 1925	?	2	2	0	..
Findley	Tr. Am. A. Obst. & Gynec. **29**: 36, 1916	?	1	0	0	1
Wertenbaker	J. A. M. A. **68**: 1612 (June 2) 1917	1 cc.	2	1	1	..
		1 cc.	..	..	..	..
Druskin	Am. J. Obst. & Gynec., 1914, p. 580	1 cc.	1	0	1	..
Evans	Southwestern Med. **5**: 1 (April) 1921	1 cc.	1	1	0	..
Henderson	J. Michigan M. Soc. **25**: 574 (Nov.) 1926	0.5 cc.	1	0	0	1
		0.5 cc.	1	1	0	..
Langcock	Am. J. Obst. & Gynec., 1922, p. 656	?	1	1	0	..
Ogden	West Virginia M. J. **16**: 132, 1921-1922	?	1	1	0	..
Phaneuf	Surg. Gynec. Obst. **29**: 575 (Dec.) 1919	?	1	0	1	..
Zullig	München med. Wchnschr., June 1, 1915, p. 743	?	1	0	0	1
Espeut	München med. Wchnschr., June 1, 1915, p. 743	?	1	0	1	..
Stocker	Cor.-Bl. f. schweiz. Aerzte, 1914, no. 52	0.5 cc.	2	1	1	..
Couvelaire		1 cc.	..	..	..	..
Couvelaire	Rev. Med. d. Uruguay, 1927, p. 730	4 minims	1	0	1	..
Bejournet	Bull. Soc. d'obst. et de gynéc., 1922, p. 234	1 cc.	1	1	0	..
Haugh	Rev. franç. de gynéc. et d'obstét., April 10-25, 1925, p. 201	1 cc.	1	0	0	1
Marcondes	J. A. M. A. **67**: 717 (Sept. 2) 1916	?	5	0	5	..
Speckert	Société suisse de Gynécologie, Lausanne, 1922, abstr. Rev. franç. de gynéc. d'obstée., April, 1925, p. 264	?	3	0	0	3
Guerdjikoff	Schweiz. med. Wchnschr. 1923, no. 4	?	1	0	0	1
Reist	Schweiz. med. Wchnschr. 1923, no. 43, p. 1000	0.5 cc.	1	0	0	1
Walrhardt	Cor.-Bl. f. schweiz. Aerzte, 1914, p. 1355; Gyn. Helv. **14**: 211, 251	?	1	0	0	1
Yung	Rev. franç. de gynéc. et d'obstét., April, 1925, p. 252	?	1	0	1	..
Lawrentie	Rev. franç. de gynéc. et d'obstét., April, 1925, p. 265	?	1	0	1	..
Carey	Surg. Gynec. Obst. **39**: 120	1 cc.	1	0	0	1
Piper	Philadelphia Obst. Soc., Feb. 14, 1924	?	1	0	1	..
Davis	Indianapolis M. J., 1924 (Mendenhall)	?	3	0	3	..
Delteil		?	3	0	1	2
Chirié	Rev. franç. de gynéc. et d'obstét., April, 1925, p. 280	?	1	..	..	1
Roques	Rev. franç. de gynéc. et d'obstét., April, 1925, p. 296	?	2	..	..	2
Cristali	Rev. franç. de gynéc. et d'obstét., April 10-25, 1925, p. 213	?	1	0	0	1
Ripten	Am. J. Obst. & Gynec. **8**: 799	?	1	1	0	..
Williamson	Practical Medical Series: Obstetrics, 1920	?	1	0	0	1
Hoffbauer	Surg. Gynec. Obst. **17**: 51	?	1	0	0	1
			89	14	50	25

* At the time this paper was read, one more case was reported by Dr. W. F. Seeley of Detroit as having occurred two days before. A specimen of the ruptured uterus was shown.

5. McNeile, L. G.: Am. J. Obst. & Gynec. **74**: 432 (Sept.) 1916; quoted by Maxwell (footnote 1).
6. Dorland, M. A.: Report of a Ruptured Uterus Resulting from the Use of Pituitary Extract, J. A. M. A. **78**: 191 (Jan. 21) 1922.
7. Marchand, D. P.: Bol. Asoc. méd. de Puerto-Rico **14**, March, 1918.
8. Marcondes: Ann. paulist. de med. e cir., 1916, p. 84.

regrettable to note that approximately one fourth of the reports failed to state whether the patient recovered or died. Of the sixty-four cases in which information as to the outcome was obtained, it was noted that fifty patients died and fourteen recovered. In other words, there was a mortality of 78 per cent.

The following case was observed in my service at the University Hospital:

Mrs. W., a quintipara, aged 36, whose family history was irrelevant, gave a past personal history that was negative for symptoms of cystitis. The menses had always been normal. Her first pregnancy terminated with a spontaneous delivery after twenty-four hours of labor. Ten days post partum, she developed symptoms of mild sepsis which ran a short course. The second period of gestation, eight years later, ended with a forceps delivery of a 10 pound (4.5 Kg.) boy. Two years later there was a miscarriage uncomplicated by hemorrhage or infection. Eighteen months prior to the present admission she gave birth, normally, to a full term infant after an easy labor lasting only two hours. She stated that her pains had always been regular during these confinements.

The approximate date of term could not be determined, but she thought that she was two weeks overdue. Fetal movements had been active until the onset of labor. The pains had begun about twenty hours before admission and had been regular with a steady increase in severity and frequency. A physician arrived twelve hours after the onset and ruptured the membranes, and the contractions became severe for a short time. They soon became weak and ceased entirely. Three hours after this procedure, three intramuscular injections of an unknown amount of solution of pituitary were given in rapid succession, because the first two failed to produce results. Following the third dose there were a few terrific pains; then they all ceased. The patient said that everything became numb. Consultation was called, forceps delivery was decided on, and, in preparation, catheterization produced a fluid described by the physician as pure blood. All further plans were abandoned and the patient was sent to the hospital.

In the admitting room, the patient's temperature was 97.8 F., the pulse rate, 120, and the blood pressure, 94 systolic and 70 diastolic. She was thirsty. General examination was negative. The abdomen was moderately large and tense; in the upper right quadrant was a round mass, and a much larger one occupied the left side. Small parts could be palpated to the left of the midline and seemed very superficial. No fetal heart beat was heard. The interspinous measurement of the pelvis was 24 cm.; the intertrochanteric 28 cm., and the external conjugate 20 cm. The transverse diameter of the outlet was 9 cm. Vaginal examination revealed the head well down on the perineum with the occiput to the left and anterior.

A diagnosis of ruptured uterus was made. Under gas anesthesia, forceps were applied and a dead fetus was extracted with ease. The placenta followed immediately. By this time the patient's radial pulse could not be obtained, and an intravenous infusion of physiologic solution of sodium chloride was started. Insertion of the hand into the uterine cavity demonstrated a rent in the left wall which included the cervix and vaginal vault. Through it, intestine could be grasped. Five yards of 2 inch, sterile gauze packing was accurately placed in the hiatus. A retention catheter was then left in the bladder, which showed a rupture just anterior to the base of the cervix. The patient recovered after transfusion and general treatment and returned to the hospital a few months later for repair of the vesicovaginal fistula.

EVALUATION OF SOLUTION OF PITUITARY

Couvelaire [9] attributes the increased incidence of ruptured uterus in the last three years largely to the use of solution of pituitary.

De Lee [10] says, "I consider pituitrin as a criminal agent if administered before the delivery of the child; it furnishes the gynecologists a lot of chronic sufferers and numerous operations."

Watson [11] says, "Pituitrin should be used in the course of labor for one purpose, and one purpose only, i. e., to stimulate uterine contraction when it is markedly inadequate, and where you are absolutely satisfied that, given adequate contraction, there is no possible obstruction to the passage of the child."

Pouliot [12] uses solution of pituitary but admits that the ability to recognize all the conditions necessary for its use is not to be expected of the average midwife; it is therefore desirable that the right use of solution of pituitary in obstetrics be restricted to physicians.

Edgar [13] says, "We have repeatedly both in private and hospital practice seen that pituitrin produces such prolonged and powerful uterine contraction that uterine rupture was imminent and anesthesia was required to control the action of the drug on the uterus."

Marcondes [8] says that solution of pituitary is considered a social scourge in Spain, Cuba, Brazil and many other countries. In Spain the government has prohibited the administration by midwives of solution of pituitary or any hypophyseal extract.

Rongy and Arluck [14] say that solution of pituitary should never be used unless a general anesthetic is within easy reach, for the contraction may become so violent that rupture of the uterus becomes imminent.

A personal communication from Dr. A. B. Davis of the New York Lying-In Hospital states that a former outdoor house surgeon went on duty there and within ten days sent in two patients with ruptured uteri due to solution of pituitary. At another time five patients were admitted to Dr. Davis' service within a comparatively few days, in each of whom he did a craniotomy. He feels that the total good resulting from the discovery of solution of pituitary is far too little to balance the harm it has done.

The manufacturers of solution of pituitary are continually circularizing obstetricians with their articles extolling the virtues of this drug. Recently I was approached by one of their representatives on the question of writing a statement for them. I assured them that anything I could say on the subject would not increase their sales.

One company has recently come out with a preparation of solution of pituitary which has been given a catchy name and a name which fails to convey the fact that it is solution of pituitary. The company claims to have removed from its preparation all blood pressure raising properties, and it is starting a campaign to sell the drug in large quantities. The physician who uses it under its attractive name would do well to remember that even the manufacturers themselves admit it has all the oxytocic powers of those preparations whose proprietary names indicate their source.

The title of my paper precludes my going into the subject of the increased mortality and morbidity of babies born following the use of solution of pituitary, but large numbers of reports are available showing that solution of pituitary in labor is highly dangerous to the baby. Eherenfest has written extensively on this subject, as have likewise Sharp, Davis,[15] De Lee, Rucker and many others.

With this array of evidence actually assembled against solution of pituitary, one can only surmise what must be the unreported disasters. No doubt there are

9. Couvelaire: Rev. med. d. Uuruguay, 1917, p. 730.
10. De Lee, J. B.: M. J. & Record, 1925.
11. Watson, B. P.: Am. J. Obst. & Gynec. 4: 603 (Dec.) 1922.
12. Pouliot, L., and Thuchard, J.: Rev. franç. de gynéc. & d'obstét. 18: 145 (March 10) 1923; quoted by Maxwell (footnote 1).
13. Edgar: Am. J. Obst. & Gynec. 68: 20 (July) 1913.
14. Rongy and Arluck: New York M. J. 99: 878, 1914.
15. Davis, A. B.: Personal communication to the author; Indianapolis M. J., 1925 (Mendenhall).

many who have seen cases of ruptured uteri due to solution of pituitary who have not reported them, and there are doubtless many other deaths due to this cause but reported under other diagnoses such as hemorrhage, shock, dilatation of the heart or embolism.

The cases recorded in the literature are reported by the consultant on the case and not by the man who gave the solution of pituitary, for reasons that are obvious.

Solution of pituitary used in the third stage is reasonably safe and is often thought to be of much value. Immediately following the delivery of the placenta and especially in the treatment of postpartum hemorrhage, the obstetrician has in this drug a great aid—in many instances often a real life saver—and in this stage there probably is no danger whatever in its use.

In evaluating the action of solution of pituitary in labor, however, one can only say that it is a quick acting, powerful oxytocic, whose actual strength is unknown, and whose effect on any given patient is in doubt until tried; its action may be so violent as to produce serious injury to mother or baby, and there is no satisfactory antidote for it; it is therefore a very dangerous drug.

Its chief value in labor is to the obstetric attendant but rarely to the mother or the baby. Generally speaking, the obstetric forceps, internal podalic version, episiotomy or cesarean section is safer.

TREATMENT OF RUPTURED UTERUS

The treatment of ruptured uterus resolves itself chiefly into the problem of whether the abdomen is to be opened. In the group of cases tabulated here, information as to the method of treatment was available in thirty-one cases. In twenty-six of these cases a laparotomy was performed, with fifteen deaths and eleven recoveries, or approximately 58 per cent mortality. In five cases the abdomen was not opened and there were two deaths and three recoveries. These cases were all ruptures following the use of solution of pituitary.

Klein[16] reports 149 cases of ruptured uteri due to various causes in which laparotomies were done, with a mortality of 44 per cent; he further reports 198 cases treated conservatively with a mortality of 32 per cent. These figures would seem to lend support to the conservative treatment.

In determining between laparotomy and more conservatism by packing from below, one is confronted first of all with the fact that most of these patients are in a state of severe shock and are poor operative risks. Furthermore, many of them will need a hysterectomy when the abdomen is opened, and this is quite a major operation for a patient already in shock. There is great danger of general peritonitis when the abdomen is opened, though of course this danger is not entirely eliminated by the more conservative treatment.

Packing from below produces much less trauma and shock; it is less likely to be followed by sepsis and can be done quickly and, if necessary, in the home; it requires much less skill and less preparation and, if the rupture includes the cervix, hemostatic sutures can usually be quickly and satisfactorily applied. Of course, in deciding between the two treatments, one determining factor is whether the baby can be delivered from below. If obstetric conditions prevail which preclude a reasonably safe delivery by way of the vagina, a laparotomy becomes necessary. But in a large number of these cases delivery can be completed quickly from below, and then there develops the necessity for a choice of further treatments.

Environment must, of course, be considered, as must also the operator. Generally speaking, however, the drift is toward conservative lines.

In the last case seen by me there was a spontaneous rupture in a face presentation. The diagnosis of ruptured uterus was promptly made when the rupture occurred and the baby's head was down to the outlet, making a forceps delivery simple.

In exploring the uterus it was found that the organ was ruptured from the external os up to the right broad ligament, including the vaginal fornix, and that the placenta was rather high in the abdominal cavity. Some difficulty was experienced in removing the placenta and at the same time preventing prolapse of the coils of the intestine. As the patient was pulseless at the wrist and in profound shock, it was obvious that a laparotomy then was out of the question. With one hand in the vagina as a guide, a large tamponade of gauze was quickly packed into the rent in the uterus and vagina, and transfusion and other supportive treatment was carried out. Recovery was prompt and complete except for the extensive scars and a uterus that will probably not withstand a future pregnancy.

If a laparotomy is chosen, there can be no definite rule as to further procedure. If the rent in the uterus is not too large and irregular it may be advisable to repair it, but the woman who has had such a repair is in great jeopardy at a future labor. It is often better surgery to remove the uterus because of this future danger and also because of the possibility of somewhat reducing the chances of sepsis.

CONCLUSIONS

1. Solution of pituitary is a valuable drug for postpartum hemorrhage.
2. It is probably safe in the third stage of labor.
3. It is probably safe in the induction of labor if used cautiously and in properly chosen cases.
4. It is never safe in the first stage of labor.
5. It is rarely if ever safe in the second stage of labor. Its chief value is to the accoucher instead of to the mother or the baby. Other obstetric procedures are nearly always safer.
6. There can be no rule as to the treatment of ruptured uterus, but the attendant must remember that conservatism may save many patients when more radical procedures may prove fatal.

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16. Klein, cited by De Lee (footnote 4).

Diphtheria Antitoxin.—The first dose of antitoxin was given to a child suffering from diphtheria by Behring, on Christmas night, 1891. What a Merry Christmas that was for the children of the world. It had to be tested in the crucible of experience, however, before it was generally accepted, for the failure of tuberculin to measure up to its claims as a cure for tuberculosis was fresh in the minds of the profession; but when the conservative Virchow in 1894 made the statement that it was "the imperative duty of medical men to use the new remedy," it began to be quite generally used. In our own country, after Dr. William H. Welch of Johns Hopkins in 1895 published an analysis of 7,000 cases of diphtheria that had been treated with antitoxin with the death rate cut in two, confidence in it was established. With a death rate of from 30 per cent to 60 per cent of all cases reduced by its use to 5 or 10 per cent when given early, the saving in human lives is obvious.—Grassick, James: The Progress of Medicine and a Pioneer Story, *Journal-Lancet*, March 15, 1929.

Clinical Notes, Suggestions and New Instruments

KEEPING THE DRAWSTRINGS ON SURGEONS' OPERATING TROUSERS FROM SNEAKING BACK INTO THE HEM

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It is annoying for physicians to have to try on two or three pairs of pajama trousers before they can find a pair that has come from the laundry with both ends of the drawstring exposed, so that the trousers may be drawn snugly around the hips.

As a general practice, knots are tied in the ends of the string and this eliminates the difficulty for a while, but after the trousers have passed through the rollers of a laundry two or three times, these knots become flattened and creep into the hem, and thus the same difficulty presents itself again.

I have found that by cutting a small washer out of a piece of flat flexible rubber (or these may be bought at any plumber's shop for 5 cents a dozen) and by pulling the string through a small hole made in the center of the washer, the ends of the string being tied into two or three knots, the drawstring will be prevented from creeping out of use. The rubber shield or washer as it passes through the rollers is pressed flat, but as soon as it emerges from the rollers it is as good as before. The laundering does not seem to affect the rubber in the least, and once the rubber washers are put on they will last indefinitely.

The important thing to remember is that the drawstring should be long enough to allow for shrinkage.

SUDDEN DEATH FROM HEART DISEASE WHILE MOTORING *

E. R. LECOUNT, M.D., AND G. J. RUKSTINAT, M.D., CHICAGO

In persons apparently in good health the first manifestations of disease sometimes occur with explosive violence. In others partially ill, or engaged in occupations in which they are able to continue in spite of latent disease, similar abrupt outbreaks take place. These unforeseen attacks often happen in places and under conditions that expose such persons to great danger and severe or fatal injuries. It may be difficult, at times, to decide the part played by disease under such circumstances, and whether or not accidental or other forms of external violence have caused injury or death. Differences in interpreting these matters naturally result in controversies and litigation.

Pathologists generally are consulted about such questions, and their decisions are obtained through postmortem examinations when possible. To some whose contact with such affairs is only occasional, the three deaths reported here may prove of interest. Notes regarding the first were kindly supplied by a colleague; we ourselves investigated the others.

CASE 1.—While a man, aged 65, was driving an automobile, it was noticed that the car began to go from side to side until it went off an embankment and turned over. The man was then dead. At the autopsy there were superficial bruises of the skin over the inside of the left ankle, over both knees and on the back of the right hand, and a somewhat deeper bruise was present on the outside of the right wrist; there were superficial lacerations of the skin over the front of the right thigh and of the back below the left shoulder blade; there was some discoloration of the skin of the face about the left eye, but the skin there was not broken; there were no evidences of fracture, dislocation or severe injury. The heart was larger than normal and the coronary arteries were markedly thicker than normal with irregular narrowings due to yellow deposits in the walls; in the myocardium of the left ventricle were scars; the aorta was irregularly thickened and somewhat dilated in the thoracic part; the liver was somewhat rough on the surface and yellowish; the kidneys were rather small, and the capsules normally free, with the outside granular and the cortex thinner than normal. The other organs of the chest and abdomen, as well as those of the neck, were healthy. An extravasation of blood about the size of a silver quarter (25 mm.) was found in the scalp covering the left occiput, but there was no fracture of the skull and no hemorrhage or abnormal change of any kind in the brain, except that the vessels at the base were a little harder than normal. There was no dislocation or fracture of the spine. The opinion was returned that death had resulted from natural causes.

CASE 2.—An automobile driven by a man, aged 67, riding alone at a moderate speed over a dry concrete road, was observed by those in a following machine to zigzag, leave the road and turn over in a shallow ditch. The second machine was only a short distance behind, but before it caught up and those in it got out to rescue the man, he crawled out from the overturned car and stood unsteadily behind it as they arrived; he died a few moments later. A physician declared that death was due to a skull fracture and brain injuries. The well embalmed body was exhumed about five months after burial. The only marks of external injury were: a superficial abrasion 1 cm. in diameter with its center 5.5 cm. above the middle of the right supra-orbital ridge; another abrasion 7 mm. in diameter, 3 cm. above this point and contiguous to a third, 12 mm. in diameter, its center 2.5 cm. higher, and another, 15 by 23 mm., its center 3 cm., above the right external canthus. The deep layers of the skin beneath these places were intact. There was also an abrasion 16 mm. vertically and 7 mm. transversely of the back border of the top of the left ear and the helix was slightly torn for 15 mm. vertically. There was an abrasion 35 by 15 mm. of the back of the right wrist. There was no skull fracture and the brain was uninjured.

The pericardial sac extended 6 cm. to the right of the midline. The heart was 15 cm. long and 12 cm. across and, with 5 cm. of aorta and the pulmonary artery to its bifurcation, weighed 525 Gm. The right mitral valve admitted two fingers easily. There was an aneurysm of the interventricular septum near the apex, 7.5 cm. vertically by 5.5 cm. across, with a gray lining. The interventricular septum was 6 mm. thick at the base of the heart and 3.5 mm. at the thinnest part. The aneurysm involved the front left ventricular wall for 21 mm. in a longitudinal direction, and here its wall was 5 mm. thick. There was senile sclerosis of the aorta and basilar artery compatible with the age of the deceased. The examination of the body was quite thorough, but there was no other noteworthy change.

The evidence all indicated that the cardiac failure began while the man was driving the car, that the oncoming cessation of the blood supply to the brain interfered with his management of the automobile, so that it was upset by the side of the road, and that the heart action finally ceased after the man got out and stood up by the capsized machine.

Disseminated fibrous myocarditis with or without aneurysms of the wall of the left ventricle probably causes unexpected death more frequently than any other disease of the myocardium or coronary arteries.[1] Persons dying from fibrous myocarditis often die in bed at night. Sometimes they die sitting upright in a chair or seat of some public conveyance and so quietly that others sitting nearby are unaware that death has occurred. That some such deaths also take place in automobiles should no longer be surprising.

CASE 3.—A. M., an acetylene welder, aged 42, apparently fainted while at work at about 3:30 p. m. No one saw the actual syncopal attack, but a foreman found him lying on the ground in a sort of stupor from which he recovered in about five minutes; got to his feet and declared himself fit for work. In the next hour he did not do any heavy work; then he got into his automobile and started for home alone. About two miles from the workshop the car careened from the right side of the street to the left, crashed into the curb, and stopped. The car did not tip over. Witnesses saw the man gasp for breath and die. The body was examined about sixteen hours after death. There was no external bruise. The man was heavily dressed, the season being winter. An elastic pink thrombus entirely occluded the descending branch of the left coronary artery 1.5 cm. from its junction with the circumflex branch. It was 8 mm. long, adherent distally to a calcified plaque 6 mm. in diameter, and attached to its proximal edge

* From the Norman Bridge Pathological Laboratory, Rush Medical College.

1. LeCount, E. R.: Pathology of Angina Pectoris, J. A. M. A. 70: 974-977 (April 6) 1918.

and extending for 1.2 mm. into the left circumflex branch was an elastic red clot. Approximately one half of the lining of the coronary arteries was occupied by fatty and calcified plaques, especially the large branches. The aorta and its larger branches possessed the lesions of a marked senile sclerosis. About one twentieth of surfaces made by cutting the myocardium were occupied by snow-white, slightly depressed streaks of disseminated fibrous myocarditis. The heart weighed about 450 Gm. The brain was devoid of gross change, and in the body generally there was no other important alteration.

Presumably the coronary thrombosis causing this death began in the factory. That no account of anginal or other pain was obtained is of considerable interest.

CHRONIC LYMPHATIC LEUKEMIA IN TWIN BROTHERS AGED FIFTY-SIX

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The occurrence of leukemia in twins has, so far as we know, never been reported. The appearance, almost simultaneously, of chronic lymphatic leukemia in identical twin brothers, aged 56, resulting in their deaths within a short time of each other, seemed to us a remarkable occurrence, and worth reporting. It brings up interesting speculations as to the etiology of chronic leukemia.

REPORT OF CASES

CASE 1.—Jacob G., a Jewish cobbler, aged 56, was first seen by one of us (H. A. S.) for the Federated Jewish Charities of Boston. He was seen in consultation with another of us (W. D.) on March 14, 1928, at which time the patient said that he had been troubled with enlarged glands for almost two years. The family history was not significant, except that he said a twin brother was suffering from a similar condition. The patient had been married thirty-three years; his wife and three children were well. He had been a cobbler from boyhood and had conducted a small basement shoe-repairing shop since coming to this country twenty-three years before.

He had never been previously ill, had never had any venereal disease, and had not had any operations. He was an inveterate smoker, consuming from twenty to forty cigarets a day. He had lost 12 pounds (5.4 Kg.) in the last two years, having weighed 150 pounds (68 Kg.) in 1926.

Until two years before, he considered himself perfectly well. At that time he discovered a bunch behind the left ear and soon after one behind the right ear. These gradually grew in size. He soon began to have lumps in the neck, and in the course of three months, he said, his neck was like that of a bull. Beginning at this time, he noticed swellings in the axillae and finally in the groins; all these in the course of time became enormous.

In July, 1927, he was at the Boston City Hospital, where the diagnosis of chronic lymphatic leukemia was made. He stopped work at this time because of weakness. Six months later, the abdomen became swollen and shortly thereafter the legs. In three months he became so dyspneic he could hardly walk along on level ground. He had not, however, had any coughing, choking spells or pain in the chest. Except for nocturia of six months' duration, he had no other symptoms. There had been no bleeding.

On examination the patient appeared well developed, rather short and stocky, dyspneic even when sitting down, and markedly pale. He had literally a bull neck, with great bunches of hard glands projecting from all sides. There were great masses of glands, the size of grapefruit, in the axillae and groins.

The heart was not enlarged but there was definite widening of the supracardiac dulness, which measured 10 cm. in the second space. Many distended veins were present on the front of the chest. The abdomen was distended and, though there was dulness in the flanks, there was no shifting dulness. The spleen was enormously enlarged, being both seen and felt, and filling the outer half of the left upper quadrant of the abdomen.

Examination of the blood showed: hemoglobin (Sahli), 34 per cent; red blood cell count, 1,480,000 per cubic millimeter; white blood cell count, 896,000 per cubic millimeter. Examination of the stained smear gave the diagnosis at a glance. The fields were massed with lymphocytes, almost all of the small or mature type. There seemed to be many more lymphocytes than red blood cells. Occasionally, a polymorphonuclear cell was seen and occasionally a nucleated red blood cell. The blood platelets seemed markedly diminished, only one or two being seen in every three fields.

After a good deal of persuasion and much delay, the patient was finally induced to enter the Collis P. Huntington Memorial Hospital for roentgen-ray treatment. By this time, the end of April, 1928, he was extremely weak and anemic. He died at home, May 1, thirty-six hours after treatment. Autopsy was not obtained.

CASE 2.—Abraham G., twin brother of patient 1, also a cobbler, was admitted to the Boston City Hospital, first medical service, June 30, 1928, because of pain in the chest and cough of two months' duration. He had noticed a year before a swelling in the left axilla; this was apparently diagnosed as an abscess and accordingly incised. The supposed abscess, however, did not drain but continued to enlarge. Gradually, he noticed other swellings, in the other axilla and in the neck. He felt fairly well, however, until two months before admission, when he began to cough. He soon became dyspneic, the dyspnea increasing rapidly. Weakness developed, and a month before he had finally been obliged to give up work.

On physical examination the patient appeared very weak, anemic and quite dyspneic. His resemblance to his twin brother was startling; it seemed as though the dead had returned to life.

The lungs showed moist râles throughout. The abdomen was distended, probably with fluid, and held rigid so that palpation of the spleen was rendered difficult. The latter organ, however, could be seen to be markedly enlarged.

A mass of glands the size of a fist was present in each axilla. Masses of glands were present also in the neck, the submaxillary region, the supraclavicular fossae and the groins.

The hemoglobin was 22 per cent (Sahli); the red blood cell count, 1,879,000; the white blood cell count, 620,800. A stained smear showed great masses of lymphocytes, most of them of the small variety. The platelets were markedly reduced.

The patient refused treatment with x-rays because of his brother's death shortly after this form of treatment was instituted. It did not seem worth while, to be sure, because of the patient's desperate condition. He was given two small doses of erysipelas and prodigiosus toxins (Coley).

The patient went rapidly down hill. There was marked respiratory distress, and, July 8, nine days after admission, and sixty-eight days after his brother's death, he died.

REVIEW OF THE LITERATURE

The occurrence of leukemia in twins is unique in medical literature. Cases occurring in the same family have, however, been reported. Hirschfeld[1] reviews several questionable cases occurring in families, and cites an instance of his own, a man, aged 67, with aleukemic leukemia, and a brother, aged 70, with typical lymphatic leukemia. McGovran[2] reported three cases of leukemia in one family, one of them myelogenous and two lymphatic. Richards[3] recorded two cases of lymphatic disease in one family, one lymphosarcoma, the other lymphatic leukemia. Schereschewsky[4] reports the almost simultaneous appearance of chronic lymphatic leukemia in a brother and a sister, aged, respectively, 61 and 54. Brugger[5] noted acute lymphatic leukemia in two infants of the same family.

COMMENT AND CONCLUSION

Our cases (or shall we say "case"?) are important chiefly from the point of view of the etiology of chronic leukemia. Since the disease appeared at approximately the same time in identical twins, resulting in their death within a short time of each other, it would seem that the possibility of an embryonic rest or anlage would have to be considered. This would go

1. Hirschfeld, H.: Article on Leukemias in Handbuch der Krankheiten des Blutes und der Blutbildenden Organe, Berlin, Julius Springer **1**: 431, 1925.
2. McGovran, C. W.: Three Cases of Leukemia in One Family, Am. J. M. Sc. **164**: 545 (Oct.) 1922.
3. Richards, C. M.: Two Cases of Lymphatic Disease in the Same Family, with Roentgen Findings, Am. J. Roentgenol. **8**: 514 (Sept.) 1921.
4. Schereschewsky, E.: Ueber einen Fall von Geschwisterleukämie, Zentralbl. f. inn. Med. **47**: 643 (June 19) 1926.
5. Brugger: Familiäres Vorkommen von Leukämie, München. med. Wchnschr. **74**: 683, 1927.

with the theory that chronic leukemia is a malignant tumor, either of bone marrow cells or of lymphoid cells.

It seems to us that these cases are more than mere coincidence. Infection does not seem to have played any part. It has never been shown that working with leather, as both these men did, has anything to do with the development of leukemia. It is well known, however, that identical twins often develop the same diseases, being constitutionally almost identical. Whether this explains why they both developed chronic lymphatic leukemia and died of it is indeed speculative. To our minds, the most probable speculation is that an embryonic rest of tumor lymphatic cells was present in both these men, finally becoming active in the fifties and causing their deaths.

484 Commonwealth Avenue — 24 Province Street — Boston City Hospital.

Council on Pharmacy and Chemistry

NEW AND NONOFFICIAL REMEDIES

THE FOLLOWING ADDITIONAL ARTICLES HAVE BEEN ACCEPTED AS CONFORMING TO THE RULES OF THE COUNCIL ON PHARMACY AND CHEMISTRY OF THE AMERICAN MEDICAL ASSOCIATION FOR ADMISSION TO NEW AND NONOFFICIAL REMEDIES. A COPY OF THE RULES ON WHICH THE COUNCIL BASES ITS ACTION WILL BE SENT ON APPLICATION.

W. A. PUCKNER, Secretary.

MAGNESIA-MINERAL OIL (25) HALEY.—A mixture composed of liquid petrolatum, U. S. P., 1 part by volume; magnesia magma, U. S. P., 3 parts by volume.

Actions and Uses.—Magnesia-mineral oil (25) Haley is used as a lubricant in the intestinal tract for promoting evacuation of the bowel and as an antacid for the gastro-intestinal canal.

Dosage.—For adults, 30 cc. (1 fluidounce).

Manufactured by The Haley M-O Company, Inc., Geneva, N. Y. U. S. patent 1,384,460 (July 12, 1921; expires 1938). U. S. trademark applied for.

SULPHARSPHENAMINE (See New and Nonofficial Remedies, 1928, p. 81).

Sulpharsphenamine-Searle.—A brand of sulpharsphenamine-N. N. R.

Manufactured by G. D. Searle & Co., Chicago, under U. S. patent 1,034,993 (April 30, 1912; expires 1929) by license of the Chemical Foundation, Inc.

Sulpharsphenamine-Searle, 0.4 Gm. Ampules.
Sulpharsphenamine-Searle, 0.5 Gm. Ampules.
Sulpharsphenamine-Searle, 0.6 Gm. Ampules.

DIPHTHERIA TOXIN-ANTITOXIN MIXTURE (See New and Nonofficial Remedies, 1928, p. 366).

The National Drug Co., Philadelphia.

Diphtheria Toxin-Antitoxin Mixture (Diphtheria Prophylactic).—Each cubic centimeter represents 0.1 L+ dose of diphtheria toxin neutralized with the required amount of antitoxin, marketed in packages of three 1 cc. vials, one immunization; in packages of one 15 cc. vial, five immunizations; in packages of one 30 cc. vial, ten immunizations, and in packages of thirty 1 cc. vials, ten immunizations.

PRELIMINARY REPORTS OF THE COUNCIL

THE COUNCIL HAS AUTHORIZED THE PUBLICATION OF THE FOLLOWING REPORT.

W. A. PUCKNER, Secretary.

COLLOIDAL MERCURY SULPHIDE-HILLE

The Hille Laboratories, Inc., Chicago, requested recognition by the Council of Colloidal Mercury Sulphide-Hille as a colloid prepared by the "condensation method," the stabilizing medium being a hydrolized protein "free from the properties responsible for the production of anaphylaxis in rabbits." The firm submitted three forms of the product: (*a*) Colloidal Mercury Sulphide-Hille (HgS-Hille), "scales or powder, containing about 15% HgS, ... about 36% hydrolyzed protein, and about 40% milk sugar"; (*b*) Sterile Solution Colloidal Mercury Sulphide-Hille (HgS-Hille, 2%), "an aqueous solution of (*a*), containing about 2% HgS and 0.2% Trikresol, ... for intravenous administration"; and (*c*) Solution Colloidal Mercury Sulphide-Hille (HgS-Hille, 1%), "an aqueous solution of (*a*), containing about 1% HgS and about 15% absolute ethyl alcohol . . . . for oral administration."

The A. M. A. Chemical Laboratory was requested to check the claimed composition of the product. Since inquiry developed the fact that the solid product was not to be marketed, but that the 1 per cent solution was to be the chief product, the Laboratory, in the main, confined its work to the examination of the latter. The Laboratory reported that it essentially confirms the claimed composition of the product, but that it found that the method of estimation supplied by the manufacturer for determining the mercury gave incorrect results, whereas an electrolytic method devised by the Laboratory gave acceptable results. By this method the amount of mercury found corresponded to a content in the solution of 0.957 per cent of mercuric sulphide, agreeing closely with the 1 per cent of mercuric sulphide claimed. The report of the A. M. A. Chemical Laboratory was submitted to the manufacturer with the recommendation of the Laboratory that the electrolytic method of estimating the mercury be adopted for the product. This recommendation was accepted by the manufacturer as well as the recommendation of the Laboratory that the alcohol content of the product be stated on the label.

As evidence for the value of the product the firm submitted (*a*) the manuscript of a paper by G. E. Wakerlin and C. Eiseman, "The Toxicity of the Colloidal Sulphides of Some Heavy Metals," which has been published (*Am. J. Syph.*, July, 1928, p. 384); (*b*) the manuscript of another paper by Wakerlin, "The Therapeutic Action of Colloidal Mercury Sulphide (Hille) and of Other Colloidal Heavy Metal Sulphides in Experimental Rabbit Syphilis," and (*c*) clinical data on the use of the product by Dr. R. H. Paterson of Hamilton, Ontario, Canada.

The unpublished paper by Wakerlin gives the results of the preliminary animal experimentation done with the product. The authors found that four rabbits actively syphilitic from testicular injections of the Nichols strain of *Spirochaeta pallida* when treated with Colloidal Mercury Sulphide-Hille evidenced prompt and rapid healing of scrotal lesions and descent of the positiveness of the blood Wassermann reaction, whereas three control animals showed pronounced local lesions and strongly positive serologic determinations of long duration. The report of Dr. Paterson details his experience in the use of the product on a group of thirteen patients with syphilis. These patients, according to Dr. Paterson, all had tertiary syphilis; they had been given from thirty-five to forty weekly treatments with an arsphenamine preparation, and none had shown negative Wassermann reactions. All had mercury ointment at home for use as inunctions. Dr. Paterson reports 53.8 per cent of negative Wassermann reactions after treatment with Colloidal Mercury Sulphide-Hille.

It is to be expected that intravenous injections of mercury sulphide would have therapeutic effects; whether they will be more effective than the older methods remains to be seen. Quantitative conclusions from work with so small a group of rabbits are not very impressive, in view of the natural variability. The clinical series of Dr. Paterson should be given but little weight, since the patients had been receiving arsphenamine treatments, and all were having mercury rubs.

Intravenous injection of colloidal solutions, especially those containing protein derivatives, requires caution. Rabbits are not convincing in this respect, being probably less susceptible. The experiments of Hanzlik and Karsner showed the frequency of allergic reactions. Though the results reported by Dr. Paterson seem to indicate that reactions may not be frequent, in view of the experience with other similar preparations the risk of serious individual susceptibility is not yet excluded. It should be emphasized that in human beings the first two injections of this product should be given not more than five days apart.

The unpublished paper of Wakerlin is thus far the chief available evidence in favor of Colloidal Mercury Sulphide-Hille, and it would seem to show that the product is now ready for clinical trial. The paper was submitted by the authors to the editor of the Archives of Dermatology and Syphilology, who expressed a desire that the Council make a preliminary report on the product before publication of the paper. Recognizing the experimental status of Colloidal Mercury Sulphide-Hille, the Council voted to postpone consideration of its acceptance for New and Nonofficial Remedies to await the results of clinical trials, and authorized publication of this preliminary report.

THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

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SATURDAY, APRIL 20, 1929

THE CHICAGO PUBLIC HEALTH INSTITUTE HAS A NEWSPAPER HOLIDAY

Chicago has a medical issue—a problem which began like a slow growing fungus several years ago and which now, by manipulation, stimulation and intricate newspaper encouragement, has burst forth into a scarlet odoriferous blossom. The issue began with the creation of the Public Health Institute—a corporation for the treatment of venereal disease. This institution, not for profit, was developed with the aid of several Chicago philanthropists, the impelling motive announced as the application in civil life of the wholesale methods of treatment of venereal disease used in the Army only during the war. Through full-page advertisements in the press, enormous numbers of patients were secured. The director of the clinic, who, it is reported, has a strange genius for commercial details, if not a respect for established medical ethics, conceived the advertisements as necessary to building the business. Soon the practices of this corporation came afoul of medical organization. The Chicago Medical Society characterized as unfair and unethical particularly the nature of the advertising. Physicians who were employed by the Institute at salaries of from three to five thousand a year, including the director, whose emolument naturally was more, were not permitted membership in the society. Beyond this, the medical society did not wage, and has not waged, anything like an active campaign against the Institute.

In the past ten years, voices have begun to cry in various social and medical publications that there must be some change in the system of medical practice, that the middle class might be provided with good medical service at a price that it can afford to pay. The voices have been not alone those of economists, of social workers and of interested philanthropists; they have been equally the voices of leaders of American medicine. Dr. Olin West, Secretary of the American Medical Association, himself, in an address several years ago voiced the situation in exactly these words:

> The great outstanding problem before the medical profession today is that involved in the delivery of adequate scientific medical service to all of the people, rich and poor, at a cost that can reasonably be met by them in their respective stations in life.

In the meantime there have been developing throughout the United States experiments of many types in the organization of medical practice. Some of these experiments have been, like the Public Health Institute, uncontrolled by anything resembling scientific medical management, never issuing scientific reports of work done, of cases seen, or of results accomplished. Others have been conducted with strict scientific controls, including social service investigation, accurate statistics, and the publication of regular reports of progress. Some have been conducted, like the Public Health Institute, without regard for medical ethics; others have attempted to confine themselves strictly to medical ethical procedure, so far as concerned advertising and competition.

During the last decade the United States has witnessed the development in big business of modern advertising. Group advertising for good will has appeared on the scene; advertising agencies, as well as publications of one type or another, have urged representatives of various professions and trades to place their wares before the public by the advertising route. People are already familiar with the group advertising of plumbers, undertakers, grocers and druggists, of chain stores and of great manufacturing concerns. Some three years ago, the Chicago *Tribune* began a drive, which has persisted intermittently since that time, to force the medical profession into group advertising. Editorials have appeared in its columns, and correspondence and news items have been devoted to this propaganda. Even advertising agencies recognize that advertising by physicians or by groups or by corporations for the development of practice would do harm to the public. Such methods permit the noisiest advertisers rather than the most competent physicians to develop the largest practices.

The Public Health Institute, conducted along strictly business lines, has shown that venereal disease can be treated in a wholesale manner at a profit. That evidence was not new, since the venereal disease quacks, forced from Chicago by the campaign of the Chicago *Tribune*, had shown likewise that patients with venereal disease secured in tremendous numbers through advertising constitute a source of profit to the advertiser. The Public Health Institute has made money rapidly from the first, regardless of the fact that patients were alleged to be treated at moderate prices. Its reserve is in hundreds of thousands of dollars. The director and the governors of the Institute have secured good will by increasing advertising appropriations in the press. Most Chicago newspapers derive thousands of dollars annually from the Institute. Furthermore, the presentation of contributions to a few educational institutions and to hospitals has earned the support of some physicians.

As might have been expected, the Public Health Institute could not undertake, with its personnel, to handle properly many of the complications of venereal disease which came inevitably to its attention. Such disturbances as strictures following gonorrhea, and pyogenic infections of the vesicles and glands, require surgical attention. Syphilis—a disorder that affects every tissue in the human body—required, through its complications, the attention of specialists in diseases of the heart, in nervous and mental disease, and in other fields. Soon the Institute began to refer these patients to specialists who were willing to cooperate. The fees for such service were not inconsiderable. It has been known for a long time that many of the patients have been thus referred. The leader in the present publicity concerning this affair—Dr. Louis Schmidt—has openly stated that he has derived much in the way of returns from this source.

The details thus far cited are given in order that the medical profession and the public may have clearly before them the background of the present furor. Let us hasten the climax! For some years, Dr. Louis Schmidt has been associated with the operation of a clinic for venereal disease conducted by the Illinois Social Hygiene League on quite ethical lines, but conducted with much less efficiency, from a business point of view, than was the Public Health Institute. This organization had shown a constant deficit; it was becoming, no doubt, a thorn in the flesh of its promoters. An arrangement seems to have been made whereby its deficit and other obligations would be met by the Public Health Institute and its directors relieved of a considerable burden. Meanwhile the Chicago Medical Society, as has been stated previously, had been watching this experiment. Its officers were apparently familiar with the intricacies and ramifications that have been mentioned. Their increasing irritation is understandable. Charges had been brought against Dr. Schmidt for his association with the Institute, but these charges were not pressed actively. Eventually, a day was set for a hearing. The evidence is available that for some time in advance of this date the Chicago *Tribune* had arranged to "break" the opening story concerning the position of Dr. Schmidt in Chicago medical affairs, and to tie up the Institute with the problem of the cost of medical care. Not only the first day's story concerning Dr. Schmidt, but the later items concerning Dr. Herman Bundesen, at present coroner of Cook County, for whom Dr. Schmidt has been campaign manager, were in the hands of the press. With good newspaper sagacity, the story was held for a Sunday morning "break" previous to the date of the medical society hearing, and the medical society thereby placed on the defensive. Whereas the statements for Dr. Schmidt and the Institute had been carefully prepared and suitably elaborated by trained writers, the replies of the society were hurried and were censored carefully by the press and the point of view of the Institute emphasized. The question at issue was the ethical status of Dr. Schmidt; the newspaper story changed that question to a consideration of the cost of medical care, and made Dr. Schmidt the standard bearer in a campaign which had previously, so far as available evidence permits judgment, concerned him but slightly. The Association of Commerce, little disturbed by the increased costs of groceries and dry goods, added its voice to the howling. Thus the great problem of the cost of medical care has been exploited to make a newspaper holiday. Some seekers of publicity and notoriety have been fed to repletion with the joy of their names in eight-column heads on the front page. When the rocket has flashed its way across the sky of publicity, this slender stick will flop to earth.

With these facts in mind, what must be the attitude of medicine toward the situation? The American Medical Association, as has been stated, has been giving serious consideration for years to the problem of the cost of medical care. It should at once be emphasized that the bill of the physician represents one small portion of this cost. The total cost represents actually the advancement in medical science, including the use of the x-rays, of laboratory service, of hospital beds, of nurses, and of many other factors associated with good medical care under modern conditions. At least ten representatives of the American Medical Association are actively associated with the Committee on the Cost of Medical Care, which is endeavoring to make a survey of the situation with a view to finding out how medical practice may be organized better to distribute the costs that have been mentioned and thereby to lower costs generally. Two of these studies have been under way several months in the headquarters office of the American Medical Association, and the medical profession of America is bearing the heavy cost of these studies. The Rosenwald Foundation is apparently committed to experimentation under scientific conditions, with a view to finding some plan that will be serviceable. The Cornell Clinic, the Milbank Foundation, and innumerable university schools of medicine are likewise undertaking experiments in this field. Under the Commonwealth Fund, well conducted experiments are being carried on in several states. The Commission on Medical Education is endeavoring to determine the nature of medical practice and means for providing better service through the general practitioner. Eventually these experiments and these studies must yield something in the nature of progress toward a solution of the situation, if not an actual solution.

There is, however, no panacea that will cure the condition. The self-seeking, quasimalicious, uninformed if not stupid, mouthings of notoriety seekers will do more to inhibit an early solution than to solve the problem. Already those wise in the ways of the world know that there will come from this Chicago turmoil nothing that can be of benefit. The issue cannot be forced! Dr. Schmidt is not a martyr; he has done

far too well in the practice of medicine to assume this rôle. The public must realize that, regardless of the eventual nature of medical practice, physicians will be required for the work; patients able to pay for individual care will always receive better attention than those handled by mass methods. Human beings cannot be relieved of their ailments as are motor cars. No doubt the newspapers will find in another week that the public interest, usually satiated by a week of concentration on any topic, is temporarily turned to other fields. The baseball season has opened. Already as usual the Chicago *Tribune* itself has shifted its story from page 1 to page 3 and even to page 22.

HUMAN MILK AND VITAMIN A

The contributions of students in the field of nutrition during the last decade have tended to increase faith in the essential adequacy of natural foods. Following closely the suggestion of the vitamin hypothesis almost twenty years ago, a period of amazing investigative activity began, directed toward a better understanding of the distribution of these accessory food factors. As a result it was soon felt that the green leafy vegetables possessed dietary values that had not been realized; vitamins A, B and C were repeatedly demonstrated in these foods. Moreover, the accumulating experimental evidence emphasized the importance of fruits as bearers of the as yet unidentified food factors. The tubers or root vegetables and the muscle meats were shown to be somewhat less valuable as carriers of vitamins, though not necessarily devoid of them. In view of the preeminent place of milk in the dietary, it is natural that considerable attention should have been given to the study of its nutritive value in the light of the newer developments. A certain satisfaction may be derived from the fact that all of the known vitamins have at various times been demonstrated to be present in cow's milk. Subsequent study has shown, however, that a superficial consideration of the experimental data available may lead to a false sense of security in the dietary adequacy of milk from the point of view of its vitamin content.

Although, as has been stated, cow's milk contains all of the vitamins, only the fat-soluble vitamin A is present in uniformly high concentration. Partly for this reason, milk fat is of unique importance among food fats. The available experimental data indicate that cow's milk cannot be considered either a potent or a reliable source of the vitamin B complex, the antiscorbutic factor or the antirachitic potency. With these facts in mind, a series of extensive comparative studies between human milk and cow's milk have been carried out and the results summarized by Macy and Outhouse.[1] These investigators show that human milk contains even less of the vitamin B complex than does cow's milk, and they point out the advisability of fortifying breast milk feeding with adjuvants of recognized high vitamin B potency. Moreover, whereas cow's milk has an appreciable concentration of the antirachitic factor, human milk seemed devoid of vitamin D under the conditions of their experiments. These facts afford pertinent support for the use of cod liver oil in addition to breast milk as well as with artificial feeding. The fat-soluble vitamin A was found in human milk in approximately the same concentration as in cow's milk; in other words, a baby receiving breast milk is obtaining a food relatively rich in this factor. The conclusion is warranted that, except for vitamins B, C and D, human milk is an excellent food since it offers protein, fat and carbohydrate of high nutritive value, a particularly favorable inorganic salt mixture and the important fat-soluble vitamin A. Properly supplemented, therefore, human milk provides optimal nutrition for the growing young.

Although this discussion indicates that normally the lack of vitamin A in the diet of milk-fed infants need not be feared, it should be pointed out that, in times of stress when the milk supply has failed, large groups of children have developed an ophthalmia, the most obvious outward sign of a deficiency of this factor. Moreover, Macy and Outhouse have pointed out that their results are probably the best that can be expected from human milk for the reason that the samples used were collected under exceptionally favorable conditions and from reliable sources. The possibility of vitamin A deficiency, though perhaps remote, should be recognized. The effect of this factor on longevity and vigor and on the resistance to infections has been discussed.[2] Tyson and Smith,[3] in a recently published report of an experimental study with albino rats, point out the widespread harm resulting from a lack of this vitamin in the ration, and certain of their conclusions can well be emphasized. Although the first reliable external sign of this deficiency in the experimental animal is the characteristic ophthalmia, it was shown that the glands at the base of the tongue are frequently affected before the ocular lesions appear. The changes consist of metaplasia of the glandular epithelium and subsequent infection. The submaxillary glands are affected in like manner but subsequent to the sublingual glands, and there are changes in the kidneys, trachea and bronchi. One group of animals was given cod liver oil after definite evidence of the vitamin deficiency had appeared. The gross eye symptoms were cured and growth was resumed. In cases in which the harm was not too great there was complete regeneration of the epithelium of the salivary glands and trachea, but that of the renal pelvis showed metaplasia and infection for as long as ninety-one days after the rat had been apparently cured. The extensive injury to the epithelium of the

1. Macy, Icie G., and Outhouse, Julia: The Vitamin Content of Milk Used in Infant Feeding, Am. J. Dis. Child. **37**: 379 (Feb.) 1929.

2. Sherman, H. C., and MacLeod, F. L.: J. Am. Chem. Soc. **47**: 1658, 1925. Vitamin A Deficiency and Infection, editorial, J. A. M. A. **91**: 962 (Sept. 29) 1928.

3. Tyson, M. D., and Smith, A. H.: Am. J. Path. **5**: 57, 1929.

upper gastro-intestinal tract and its evaginations, to the eye and to the kidney when vitamin A is lacking in metabolism is one of the most profound and striking examples of the results of a dietary deficiency.

The abundance of the essential vitamin A in milk constitutes one of the most important safeguards to the nutritive well being of the young. However, the available information points out the possible as well as the actual dietary limitations of human milk, and the physician cannot afford to disregard these facts. It appears, therefore, that the extension of the use of orange juice and of cod liver oil to the feeding program of breast-fed infants would provide a better defense against any known dietary deficiency.

Current Comment

POTATO VERSUS THE GUINEA-PIG FOR CULTURES OF TUBERCULOSIS

The award of the American Association for the Advancement of Science last year for preeminent research in the field of tuberculosis went to two workers in the Research department of the National Jewish Hospital at Denver. The object of their research has been to discover a laboratory method for the identification of tubercle bacilli when these are present only in small numbers in sputum, urine or tissues. The current use of the guinea-pig for this purpose did not satisfy them: it is too slow and too extravagant. After testing the various mediums that had been devised by other workers, they concluded that Calmette's potato cylinder gave the best growth;[1] but this medium had one disadvantage in that it proved to be good food also for the contaminating organisms. To destroy the latter they mixed their tuberculous material with an equal volume of 6 per cent sulphuric or 3 per cent hydrochloric acid, securing intimate contact by using the centrifuge. They were also able to improve the nutrient quality of the medium by the addition of small quantities of an American dye, crystal violet. This medium gave them a growth of tubercle bacilli in from two to five weeks. In their latest paper[2] these workers report that they have been engaged in simplifying their method and submitting it to practical tests in competition with rival methods. A solid medium embodying potato (autoclaved and subsequently ground), agar, glycerol and crystal violet has been evolved which their tests show to be superior to Petroff's medium and the equal of guinea-pig inoculation; the equal, that is, in producing positive results. In other respects the pig shows what must be to him a gratifying inferiority. The advantages claimed for the potato include economy, the possibility of repeated observations, and the availability of a culture when the result is positive. It is probable that many laboratory workers will prefer to keep a sack of potatoes to maintaining a room full of guinea-pigs.

1. Corper, H. J., and Uyei, Nao: The Cultivation of Tubercle Bacilli: An Improved Method for Isolation from Tuberculous Materials, J. Lab. & Clin. Med. **13**: 469, 1928.
2. Corper, H. J., and Uyei, Nao: Further Observations with a New Method for Cultivating Tubercle Bacilli: A Comparison with Guinea-Pig Inoculation and Petroff's Medium, J. Lab. & Clin. Med. **14**: 393 (Feb.) 1929.

OBESITY AS A PRECURSOR OF DIABETES

The association of diabetes with obesity has long been the subject of comment by medical observers. The statistical evidence of such an interrelationship is growing with the rapid increase in data afforded by the increasingly large incidence of diabetic disease. Parallel occurrences are by no means always indicative of an etiologic interdependence, though of course they call for critical consideration of the possibility. Joslin, whose extensive studies of diabetes entitle his conclusions to respect, has ventured the assertion that the disease is largely a penalty of obesity, and the greater the obesity, the more likely is nature to enforce it. Yet even this convinced investigator still admits[1] that the closeness of the dependence of diabetes on obesity still demands more elucidation. Adams[2] of the Mayo Clinic has pointed out that for the most part the relationship between obesity and diabetes, as reported in the literature, seems to have been investigated in urban districts. The records of his institution have enabled him to correlate relevant data on persons coming largely from rural districts. From an analysis of his figures it appears that 91 per cent of the patients were overweight and that 82.9 per cent were more than 10 per cent overweight before their diabetes began. It appears, further, that obesity may be an important factor in the development of diabetes in young persons, because more than 30 per cent of persons less than 20 years of age were more than 10 per cent overweight before their diabetes began. There is little relevant difference between the sexes. This contribution from the Mayo Clinic therefore serves to reinforce the possible significance of overweight in the genesis of a serious disorder. It would be rash, however, to promulgate uniformly applicable remedies. Adams has properly pointed out that for convenience obesity may be classified as preventable and unpreventable. Many persons who are overweight present a combination of the two classes. Preventable obesity is the type acquired because of faulty habits of living. A sedentary life may contribute to the acquisition of too much fat. Persistent overeating is frequently responsible for obesity. Wealth may encourage a sedentary life and may contribute, in part, to the cause of obesity. The idea that reduction can be easily accomplished may be a cause of obesity in certain persons; this idea may be the result of the widespread campaigns advertising the efficacy of reducing pills, corsets, massage and the like. The unpreventable causes of obesity, Adams concludes, may be age, sex, heredity, previous diseases and various disturbances of the endocrine glands, including those which take place at the menopause. In any event, each succeeding compilation of ascertainable facts only serves to emphasize anew that education regarding obesity should help in averting diabetes.

1. Joslin, E. P.: Treatment of Diabetes Mellitus, Philadelphia, Lea and Febiger, 1928.
2. Adams, S. F.: Obesity as a Precursor of Diabetes, J. Nutrition **1**: 339 (March) 1929.

Association News

MEDICAL BROADCAST FOR THE WEEK

The American Medical Association Morning Health Talks and Evening Health Hints from Hygeia

The American Medical Association broadcasts daily at 10 o'clock in the morning, central standard time, over Station WBBM (770 kilocycles, or 389.4 meters).

The program for the week of April 22 to 27 will be as follows:

April 22. "The Staff of Life" (A Consideration of Breads), by Dr. James Nall.
April 23. "Hygeia—Mythological Greek Maiden," by Dr. R. G. Leland.
April 24. "Scarlet Fever," by Dr. R. G. Leland.
April 25. "Scarlet Fever" (continued), by Dr. R. G. Leland.
April 26. "Unusual Vegetables and How to Prepare Them," by Miss Mildred Whitcomb.
April 27. "Mountain Mothers of Kentucky," by Miss Lois Stice.

Evening Health Hints from Hygeia at 8 o'Clock, Central Standard Time

April 22. The Child as a Health Unit.
April 23. Keeping Milk Clean After Delivery.
April 24. A Far Eastern Health Service.
April 25. Planning Cities for Health.
April 26. How to Avoid Colds.
April 27. Willie's Cold.

ANNUAL CONGRESS ON MEDICAL EDUCATION, MEDICAL LICENSURE AND HOSPITALS

Twenty-Fifth Annual Meeting, held in Chicago, Feb. 18, 19 and 20, 1929

(Continued from page 1275)

The University Hospital, Community, and Practicing Physician

DR. HENRY S. HOUGHTON, Iowa City: Approximately 85 per cent of the patients treated in the University Hospital are those who have been committed by court order. Of the remaining 15 per cent, two thirds, or a tenth of the entire clientele, are what is known as cost patients. These are persons who testify that they have sufficient means to pay only the basic hospitalization rate, and cannot afford professional fees. They are admitted only when sent in by their physician, who certifies as to their inability to pay for private professional care. Five per cent of the whole number of patients are private and pay cases—those who can pay a professional fee, either directly to the part-time physician in whose service they enter, or to the university if admitted to one of the full-time clinical departments. It would seem, theoretically at least, that there is here a well nigh ideal arrangement for the dual purpose of furnishing skilled and effective treatment to indigents, and of supplying necessary clinical teaching material to medical students. Large numbers, and a wide variety of cases, are available. The physical location of such a hospital, in a small city with reasonably convenient access from different parts of the state, on a site that provides a maximum of sunlight and pure air, and a system of financing that involves no deficits in operation all strongly favor such a plan. I am convinced, indeed, that its advantages outweigh its imperfections. It is the belief of the administrative officers of the university and medical college that enduring success in any state educational program of this kind can be attained only by following policies that will commend themselves fully to the organized profession, and secure their good will and active cooperation. The growing discontent with the medical service machinery has been therefore a matter of serious concern to the board of education and the university authorities. A series of friendly conferences has been held with the officers of the state society and with county societies, and the difficulties have been carefully studied. The university's policies and objectives have been restated, and most of the points at issue have been settled.

One realizes that changes are appearing all over the country in the conditions under which medical care is provided, particularly for people in moderate circumstances. There is a growing pressure to socialize medicine, to centralize, to institutionalize and to subsidize, in the interests of furnishing the great middle fraction of the population with competent care at low cost. Whether or not these pressures will result eventually in a reasonable and constructive medical socialism it is difficult to tell. Our main concern, in connection with this Iowa plan, is to make certain, on the negative side, that it does not in fact invade the legitimate practice of the physicians of the state, and that it does not tend to bring about abrupt changes in the social and economic order which would affect the services now given to the community by regular physicians. On the positive side we are equally anxious to develop a system in which physicians will cooperate cheerfully and helpfully: which will supplement their work instead of undermining it, and to which the great state organizations concerned with medicine—the university, the state medical society and the state department of health—may contribute a share in a unified and comprehensive program of curative and preventive medicine, teaching and productive research.

DISCUSSION ON PAPERS OF DRS. RANKIN, BARDEEN AND HOUGHTON

DR. WILBURT S. DAVISON, Durham, N. C.: Dr. Rankin has brought out very clearly the relationship between nurses, hospitals and medical personnel. The question of distribution of physicians is so intimately bound up with the distribution of hospitals that the two cannot be divorced. In North and South Carolina, as a result of the Duke Endowment, most of the counties within the next fifteen years will have hospital facilities of some kind. I think that is the only way in which the distribution of physicians can be solved. In some of the towns of North Carolina the question of the high cost of surgery has been solved. In two towns the general practitioners have built a hospital and then hired a surgeon. His fees go to the hospital and revert back to the general practitioners. It is a very interesting experiment. The two men who are on the staff are well pleased with the arrangement. They do all the work of the hospital and the general practitioners who own the hospital are thoroughly satisfied because one hospital has paid a 25 per cent dividend on the proceeds from the hospital and from the surgical fees. That is one way of solving the distribution of cost between surgery and general practice. The question of hospitals brings up the high cost of sickness. I do not think that the cost of medical care has risen very much in the last fifteen or twenty years, but certainly the cost of sickness has risen tremendously. Years ago the midwife made the delivery and got a comparatively small fee. That was the total cost of delivery. Nowadays women go to hospitals, and the average cost of delivery to persons of moderate circumstances is about $250. About $35 goes to the physician, about $75 to $85 to the private nurse, and the remainder to the hospital. The hospitals are not running at a profit; in fact, they have a considerable deficit. It is the high cost of hospital care which has increased the cost of sickness. Dr. Bardeen's figures are extremely interesting, showing the way in which medical schools are linked up with the hospital service of the country. The law Dr. Houghton described is an ideal one, but whether it would be applicable to eastern states, I do not know.

DR. E. P. LYON, Minneapolis: The state laws under which the medical schools or state hospitals are supported constitute an important problem which will receive a great deal of attention from medical authorities. It is so important indeed, in my opinion, that I think it would be wise to have a specially qualified committee study this whole question and perhaps formulate a standard law which would be advanced when questions arise with regard to these matters. In Iowa the state furnishes the entire support from state taxes. Many things can be said in favor of that arrangement. The state, at least in the west, has been the unit to take care of the insane. In that case there has been no objection, of course, from physicians, because they do not like to take care of that particular form of disease. When one attempts to do the same thing with regard to other diseases which are commonly treated by private physicians, objections do arise. In Minnesota, the law provides for a division of the expense, half of it falling on state taxes and half on county taxes. I believe that Indiana has a county law, and Dean Emerson has told me of the difficulties which they have there to get the counties to patronize other hospitals.

DR. IRVIN D. METZGER, Pittsburgh: The Duke Foundation is doing a work that will open the eyes of all of us. It is only natural that medical graduates should want to locate in some section in which they can have access to a hospital. The very nature of medical education leads right up to that point. The time was when the physician was graduated and knew all that was necessary to know, in his own mind at least, in medicine. He had the facts relative to the care of the patient, and after he had those he worked them out in his own particular way without much concern for the opinions of other people. That time is past. Education is a research proposition now. The medical graduate realizes very early in his course that he cannot possibly know everything that is to be known, and he realizes much more fully during his intern year that he is merely starting in his medical knowledge and he wants to continue that and apply it under facilities in which he can do so to his own best advantage. That makes him, of course, select hospital opportunities. We have in our state various sections and smaller towns in which there is a regular rivalry among physicians in their quest for further knowledge through research work. Quite a number of hospitals in small towns are becoming research centers. Smaller towns are beginning to realize that if they are to have coming into their towns physicians who are worth while they must establish hospitals. The future of medicine will be most marked along the line of establishing more hospitals in country communities, hospitals that will be worth while.

DR. J. JAY KEEGAN, Omaha: I wish to call attention to what seems to me a very important point brought out by this program, namely, the divergent interests of the two organizations that have been presented, or, in other words, the decentralization of medical practice and hospital practice and the opposite tendency in the state university hospitals toward a centralization of that activity. It seems to me that those are two opposed interests, and from the university hospital standpoint I believe I see the manner in which it is affecting that hospital. As these smaller hospitals are located out over the state and in the county seats, this seems to me a very desirable movement if it gives better service to the public and better service to the physician, because as these smaller centers are being established it makes those physicians better able (and they are usually entitled to take care of their own work) to handle particularly sudden illness of short duration which is susceptible of being cured by medical treatment. That activity detracts from the desirability of the patient whom the university teaching hospital desires. It seems to me that the university hospital as a large institution rendering a state service is going to have to take into consideration the tendency in medical practice, which is directly in the opposite direction. The university hospital will have to be considered more strictly as a teaching hospital and educational institution primarily and almost solely if this present trend continues; it will have to be more and more dependent on its local territory to attract or to obtain the desirable teaching cases. The Nebraska law is very simple. It establishes a hospital with a twofold purpose: to care for the worthy poor of the state, and to serve as a teaching institution for the University of Nebraska College of Medicine, and it places the hospital under the board of regents of the university and leaves to them the drafting of all rules and regulations concerning the operation of that hospital. In that sense it is strictly a teaching hospital. The funds come from the university budget. My interpretation of it at the present time is that we should keep in mind always the fact that it is primarily and almost solely a teaching institution, which renders the very important and additional function of state medical service, and which can be used as an argument for the justification of its existence and for legislative support in finances.

DR. R. A. LAMBERT, New York: I should like to ask Dr. Houghton how many states thus far have enacted laws similar to the Iowa law.

DR. HENRY S. HOUGHTON, Iowa City: Oklahoma has a similar law. I think it is the only one that is a copy more or less of the Iowa law.

DR. R. A. LAMBERT, New York: I have had a little experience in writing a law in Porto Rico, where a special hospital for tropical diseases in connection with the School of Tropical Medicine is being established. We anticipated there one particular thing: the complaints from counties about sharing in the use of the hospital. Beds were allotted to counties but with the definite understanding that if not used they were available for the entire island. Furthermore, we carefully stated the types of cases that would be received, and the method of their selection, and then reserved a certain proportion of the hospital beds for educational use. That was done with the idea that certain diseases would be studied and therefore a certain number of beds would have to be reserved for those cases to be investigated.

MR. PAUL H. FESLER, Minneapolis: A study has been made by a committee from the Minnesota State Medical Association covering medical schools in the states of Michigan, Illinois, Wisconsin, Ohio, Kentucky, Indiana, Iowa and Minnesota to find the reaction on the part of the medical profession to medical schools and the hospitals, methods of service, and the attitude toward the state boards of health. In Michigan there were twenty-two official replies from societies. Four were for the medical school program and sixteen against it; one for the premedical and fifteen against, and one for the state board of health program and six against. Illinois: six for the medical school program and twelve against; two for the premedical organization and twenty-three against. Wisconsin: five for the medical school and six against; one for the premedical service program and twelve against; there were no votes on the health program. Ohio: eight for and twelve against the medical program; in relation to the health program, four for and eighteen against; for the board of health, three for and eighteen against. In all of these states there were forty-five societies for the medical school programs and ninety-seven against; there were sixteen for the premedical service programs and 127 against; there were twelve for the state board of health programs and forty-two against. This is a picture of the attitude of the county medical society in spite of the fact that in all the state institutions every patient had been sent in by a reputable physician. That seems to be the law. I was interested in that this summer and it was my business to go into about forty counties in Minnesota, just dropping in and talking to physicians in their offices. I called on the physician to get his reaction toward the medical school and the university hospital. I found that the average physician was not particularly interested unless he had been stepped on in some way. Most of the opposition from physicians was in the city where the medical school is located, and all of the opposition in the state came from this particular source. I found also that most of the complaints were relative to patients and not to teaching value. We tried to establish the rule in our outpatient course in the hospital that an investigation should be made whenever a question arose, and especially that patients for counsel service must be recommended by some physician outside the dispensary service. The physicians complained about patients who were able to pay coming to the hospital, and we established a fund into which we put all the fees we could get. This special fund belongs to the physicians and is used to buy special equipment for the hospital. It did not amount to very much though, because there were not many patients.

DR. H. R. WAHL, Kansas City, Kan.: Kansas has a law the purpose of which is twofold: to provide some means of taking care of the indigent patients in the state, and to provide teaching material for the hospital. According to this law any patient may be sent to the university hospital at the request of the county council or the county commissioners. The hospital charges back to the county whatever expense is incurred in the care of the patient. This works fairly well; we have had little complaint. The main objection is that the hospital the state furnishes is too small to supply the demand. The other point is the attitude of the medical profession toward the medical school. The entire profession of the state is strongly backing the medical school. If there is any criticism about the kind of patients that are being sent there, it is not the fault of the medical school; it is the fault of the county, the county health officer and the county commissioners. We do have patients come to us from time to time who are legitimate private patients. They seem to have considerable influence with the county health officer and go through. That is not our affair. That is a thing to be taken care of by the county.

DR. DONALD M. MORRILL, Grand Rapids, Mich.: In Michigan there are two laws. One is for the care of children, which is a direct charge against the general funds of the state. The second law is for the care of adults, which is a direct charge, through the auditor general's department, back against the counties. In 1927 the legislature passed an act, the children's law, which is a direct state charge. Orthopedic work may now be authorized in some community hospitals but the control of that is vested in a state crippled children's commission, an appointive commission which designates the particular hospitals and the particular orthopedic surgeons who may care for such patients. In that way reimbursement is provided for the physician as well as for the hospital in the individual community.

DR. EDWARD T. THOMPSON, Bloomington, Ind.: In Indiana we have a rather peculiar condition. The Indiana University Hospital is composed of three separate hospitals all on the same campus. Each hospital has its own law. The Robert W. Long Hospital, the general hospital, and the Colman Hospital for Women are supported directly from state funds which come to us through the university and by fees from private patients. The James Whitcomb Riley Hospital for Children is under the county system. The cost of care for children is charged directly back to the counties. The state, however, gives Indiana University $50,000 a year to apply on its per diem claims. The total cost of maintenance, minus the $50,000 from the state, divided by the number of patients gives a moderately low per diem claim. That claim is given to the state auditor and the state auditor collects from the counties. Consequently, we have absolutely no difficulty in collecting our bills; the state auditor collects them for us.

DR. R. C. BUERKI, Madison, Wis.: At the University of Wisconsin we are rather wedded to the idea of centralization, using the hospitals as teaching centers. Certainly some of the small hospitals in the state which have exceptionally good medical men grouped around them give high class service to patients and very high class teaching to our medical students. Our law is a most admirable one. We gleaned the good things from laws of other states and dropped some of the things that looked as though they were going to be pitfalls. I doubt whether we have any really bad spots. The collection of joint state and county funds is easily done by the secretary of state who bills directly to the counties. The fact that the county thinks about the patients it sends in because it must pay a portion of the cost is admirable. It does not lead to as free a use of the hospital probably, but it does prevent the county authorities from sending people to us who should not come.

DR. E. P. LYON, Minneapolis: The peculiar anomalies of these laws may be observed in Minnesota. Under the state board of control is a hospital for crippled children in St. Paul, the entire expense of which falls on the state. It is not on the university campus, but, of course, we use it, and we have close relationship with it. Just at present we are opening an orthopedic service at the university hospital, and the patients there will be supported by the county and the state. We rather suspect that the counties will not send their patients to our service. These things illustrate the anomalies and peculiarities of these laws. They require careful study by some one who can find the best points in them and be able to recommend to those states that are adopting new laws or revising their old ones the best features from the standpoint of medical education and of the greatest service to the profession.

DR. MAURICE H. REES, Denver: I should think one would find such a wide variation in the different states as to the method of taking care of indigents that he would have a great deal of difficulty. Some of them say, for example, that the care of the indigent is passed on by county commissioners; in others by supervisors; in other places the county judge looks after the commitment of these patients, and in other instances it is the duty of the county physician. We have had considerable conflict in Colorado between the county physician and the county commissions. Some counties delegate the entire duty of looking after the indigent to the county physician. In other counties the commissioners are very jealous of their prerogatives and will not pay for any patients that the county physician sends in. Dr. Houghton mentioned that in Iowa the physician must use a sworn statement in sending in patients. I was wondering whether he succeeds in having that sworn to. In Colorado we have such a statement on the admission papers, but the physicians refuse to use it. The biggest abuse that we find of the use of our hospital really comes from the physicians because they want to send in certain types of cases that they cannot take care of themselves.

DR. HENRY S. HOUGHTON, Iowa City: In Iowa the physician's blank provides space for comment by the examining physician as to the ability of the patient to pay, but this is not a sworn statement. A sworn statement is handled by the county attorney, whose function it is to investigate the financial standing and rating of those responsible for the patient's presence.

FEBRUARY 19—AFTERNOON

THE HOSPITAL INTERNSHIP

The Internship as a Requirement for the Medical Degree

DR. WILLIAM DARRACH, New York: It seems unnecessary to debate how or why the internship is desirable—let us assume that it is. If so, is it not our duty as medical educators to see that all of our students have this experience? My own personal reaction to this question is, No. Each year I advise a few students not to take an internship. Some are hungry and qualified for scientific work; others prefer further study here or abroad; occasionally one will have a desirable opportunity to start practice with his father or a friend which will give him both hospital and outside practice. Three courses are open: We may compel them to take it by making it a prerequisite for the medical degree; we may make it a prerequisite for a license to practice, or we may let nature take its course and leave it to the individual to profit by the experience and advice of his elders. I myself prefer the latter course. If the university makes the internship a requisite for its degree it assumes certain responsibilities. It should define just what sort of experience is necessary as to both time and character. I doubt my own ability to plan just the length or character of internship which all of our students require to qualify themselves for practice. I know that some need more than others. I believe that the character of the service should vary with the ability, plans and opportunities of the individual. The school should also devise and put into effect a method by which it might satisfy itself that the hospital where the student is to go can provide the sort of experience he needs. That is, we must approve the hospitals where our students are to go. Each school must then be in a position to answer definitely the question whether a hospital is approved or not. It would be quite simple were each school able to offer to all its students an internship in its own teaching hospitals. Unfortunately, this is rarely possible. Also many of us believe that it is better for some of our students to migrate at this point in their career. They may go far afield. It would be difficult if not impossible to acquire enough accurate information year after year to be sure that all the hospitals on the approved list were providing the opportunities we say are essential for our degree. Furthermore, I shrink from answering the question to be asked by those hospitals not on the approved list as to our reasons for not approving them. Nor do I care to admit that the course as given at our school does not qualify those who complete it to begin the practice of medicine. We realize only too well how little they know, but we are not optimistic enough to think that a year's internship will cure these defects. It does not seem consistent to add another period of the fixed type of experience. Is it not wiser to complete our responsibility with the experiences under our own control rather than to demand of the student as a prerequisite for the degree something over which we have no authority and about which we may have only information that is vague and quite often wrong? A certain percentage of our graduates probably are not as well qualified to practice as we desire or the public deserves. But of this group how many would become so after a year's internship? Our duty seems to lie rather in so improving our course and stiffening our graduation requirements as to reduce to the minimum that percentage of our graduates who are really unfit to begin the practice of medicine on their own responsibility.

Internships in a Teaching Hospital

DR. L. S. SCHMITT, San Francisco: The intern period should not be an additional year added to the medical curriculum but should take the form of a modified apprenticeship. The work of the intern should be carefully planned and supervised. His stay in the institution should be of a distinct educational value to him. A short stay on too many services does not result in any benefit either to the intern or to the institution. The patient is the unit around which the duties of the intern should revolve. A graded record should be maintained in which the quality of work, both professional and administrative, should be noted. Reports should be made out periodically by a senior member of the staff concerned, and should note in detail the manner of the intern's performance of his professional work. These reports might also include a statement of the intern's conduct, cooperation, executive ability, manner of carrying out orders and aptitude. Such reports should be submitted to the administrative department of the hospital and filed in the records of the institution.

Suggested Program for an Intern

DR. CHRISTOPHER G. PARNALL, Rochester, N. Y.: Recognizing its own shortcomings, the hospital with which I am connected some years ago attempted to develop a program for its resident medical services with the object of providing, in something like an adequate way, the educational and professional opportunities to which it believed the intern was entitled. An announcement setting forth as fully as possible the scope of the service was published and sent out to prospective applicants. The applicant was told what was expected of him and what he could expect of the hospital. It is comparable perhaps with the announcement of the courses of a graduate school. An outline of the services was given; schedules of work were announced; assignment to duties in both the house and the outpatient department were indicated. The methods of selection of various grades of house officers were explained. Educational opportunities both within the hospital and in the community were noted, including staff conferences and medical society meetings. Living conditions including a description of the living quarters and possibilities for recreation were included. The circular was intended to function as a prospectus. It was also intended to partake of the nature of an agreement to which the hospital was definitely committed. If it was formulated for the benefit of the intern it was in no less a sense expected to work to the advantage of the hospital. Experience shows that it has accomplished its purpose.

After a definite course of instruction is worked out for house officers, the next important consideration is the provision of an efficient method of recording their accomplishments and deficiencies while under staff observation. A just evaluation should be a composite of the impressions of all staff members under whom the house officer has served. Otherwise, personal prejudice and bias may defeat the real object of the system, which should be to give a true summary of the professional accomplishments and general fitness of a young man who is preparing himself for the practice of medicine. Our own experience has convinced us that it is equally important to provide the house officer with enough work to keep him reasonably busy and to create a realization on his part that there is some one who is concerned regarding the kind of work which he does and ready to point out his deficiencies. Experience has prompted us to modify our methods from time to time. Fundamentally, we feel that the opinions which are expressed by staff members should be based on definite premises in order to be of value, and the grading system should be simple and readily applied. To meet the first requirement we have divided our blank into two portions, in the first column of which we have listed certain personal and general characteristics which we consider important and in the second column of which we have listed certain professional characteristics that we feel should receive consideration. In order to meet the requirement of simplicity and easy application, we have built the record up in the form of a score card by assigning values to each of the characteristics listed. Reasonable familiarity on the part of the staff with the work of house officers serving under them should enable them to evaluate the characteristics that have been selected. In each of the columns, relative importance is indicated by the relative weight assigned to individual characteristics. A score perfect in all respects is indicated by a total of 100 points, of which 50 points are assigned to personal characteristics and 50 points to professional characteristics. The score card should show the grounds on which the opinions expressed under "Remarks" are based. Whenever a house officer completes a unit of his service, copies of this blank are mailed to all members of the staff under whom he has served. At the end of the year these reports are all consolidated on an 8½ by 11 card with the front printed like the blank; on the reverse side of the card provision is made for entering identification, date, illnesses, vacations and so forth. The information contained on the consolidated report puts the hospital in a position to furnish an unbiased opinion of the house officer's work when this is requested by individuals or by other institutions and has made it possible for us to discover incipient defects in some of the house officers and thus correct them before they have become established. Such criticism has always been well received by the house officers and, what is more to the point, they have made real efforts to profit by such criticism.

In any hospital where interns are utilized there should be second and third year men on the resident service whose influence and activity will mean as much as association with the older members of the staff in teaching methods and inspiring ideals in the younger men. In the first year I believe an intern should be given all he can do. Hard work should become a fixed habit. Cases may be so over well worked up that they become too much matters of academic interest. Leisure for contemplation will more than likely be spent in contemplation not of medical matters but of things which young men just out of medical school are most likely to contemplate. In my hospital we have no rules relating to personal conduct. The absence of a rule can thus never be used as an alibi for conduct unbecoming a physician or a gentleman. If the intern is given his just due, which includes an active interest on the part of the administration and the staff of the hospital in carrying out a definite program, outlined in advance, if he is convinced that he is to be treated as a physician and expected to act accordingly, an individual loyalty and a collective *esprit de corps* result.

(To be continued)

Medical News

(PHYSICIANS WILL CONFER A FAVOR BY SENDING FOR THIS DEPARTMENT ITEMS OF NEWS OF MORE OR LESS GENERAL INTEREST: SUCH AS RELATE TO SOCIETY ACTIVITIES, NEW HOSPITALS, EDUCATION, PUBLIC HEALTH, ETC.)

ARIZONA

Personal.—Dr. Bernard L. Wyatt has resigned as director of the Desert Sanatorium of Southern Arizona at Tucson; during the last year the research institute building, costing $175,000, was opened.

CALIFORNIA

Christian Scientists Build Sanatorium. — According to *Modern Hospital*, officials of the Christian Science Church announce that a new $1,000,000 sanatorium is under construction in San Francisco which will occupy a site two blocks square and be patterned after the chateaus of northern France.

Professor of Pathology Appointed. — The dean of the University of Southern California School of Medicine announces the appointment of Dr. Ernest M. Hall as professor of pathology and bacteriology. Dr. Hall has been acting associate professor of histology since the school opened in September of last year, previous to which time he was a member of the faculty of his alma mater, Stanford University, for about four years.

Institute of Tropical Medicine Established.—The University of California announced, April 9, the establishment of the Pacific Institute of Tropical Medicine within the George William Hooper Foundation for Medical Research. It will open next year with Dr. Alfred C. Reed, professor of tropical medicine, as its head. The new organization was established to provide a center for the study and treatment of tropical disease, for research in health and food preservation in the tropics or locally, and for public education.

Student Entrants Have Ringworm.—The University of California is about to undertake the construction of a new infirmary, costing about $500,000, which will improve the student health service. The number of students entitled to treatment during 1928 was 11,145, and 77.2 per cent of them took advantage of the privilege. The university physician, Dr. Robert T. Legge, in his annual report, stated that the total number of treatments given during the year was 70,614, while the number of diagnoses made was 15,709. The students' general health was good, only one infectious disease, poliomyelitis, giving concern. The only sanitary problem of importance was said to be a ringworm infection of the feet which was found in fully half of the entrants on matriculation.

Bills Passed.—Senate bill 182, regulating the sale, possession and use of habit-forming narcotics and other dangerous drugs has been passed by the house and the senate. House bill 346, requiring all applicants for marriage licenses to present certificates from a physician certifying the absence of venereal disease, has been passed by the house. The following bills have been passed by the senate; Senate bill 106, amending the medical practice act by adding a section relating to the impersonation of investigators of the board of medical examiners and providing a penalty for the violation; senate bill 213, providing that any surgeon of the United States Army or Navy, honorably discharged or temporarily detached from service, may practice medicine in the state of California, and senate bill 337, requiring the director of institutions to adopt rules and regulations for the government of the state narcotic hospital.

Fake Accident Insurance Sold to Physicians.—Orville Mason, who was reported in an Arkansas news item in THE JOURNAL, Feb. 11, 1928, to be selling accident insurance policies fraudulently, has been operating recently in Colton, San Bernardino County, among the physicians, dentists and nurses, from whom a complaint has been received. Mason collected on the policies in advance, and, after more than a month had elapsed, the policies had not yet been delivered. This time he claimed to be an agent of the Peerless Life and Accident Insurance Company of Topeka, Kan., but that company denied that he is its agent as it has no license to write insurance in California. A letter sent to Mason's address was returned marked "unclaimed and unknown." Mason is about 5 feet 6 inches tall, is in the early forties, and on a former occasion wore glasses and a small mustache. He is reported to have worked the same game among physicians in other western states.

COLORADO

Bill Passed.—House bill 4, creating a state board of beauty culture examiners and regulating the practice of beauty culture, has been passed by the house and the senate.

CONNECTICUT

Dr. Verdi Honored.—About 600 persons attended the ceremony at New Haven, April 8, when a representative of the Italian Government conferred on Dr. William F. Verdi, clinical professor of surgery, Yale University School of Medicine, the decoration of Grand Officers of the Crown of Italy, which was awarded for service to the wounded during the World War. Among the speakers were Governor Trumbull, President James R. Angell of Yale University, and Mayor Tully of New Haven. Count Marchetti of the Italian Embassy made the presentation. Dr. Verdi has a Distinguished Service Medal from the U. S. Army in recognition of his service over seas with the American Expeditionary Forces. Dr. Verdi is a graduate of Yale.

Bills Passed.—The following bills have been passed by the house and the senate: Senate bill 244, providing that the health officer of a town contiguous to any body of water not wholly within the limits of said town may have jurisdiction over such body of water in the enforcement of regulations relating to public health, and senate bill 478, providing that every physician shall report in writing the names of patients infected with venereal disease, who are handling foods. The following bills have been passed by the senate: Senate bill 243, amending the law relating to optometrists by requiring attendance for three years in a school of optometry and by limiting the use of the word "doctor" to the appending of the letters "O.D." or other letters indicating the person named to be an optometrist, and senate bill 459, providing that all actions against physicians, surgeons, dentists, hospitals and sanatoriums for malpractice, error, mistake or failure to cure, whether based on contract or tort, must be brought within one year from the date of the injury or the neglect complained of. House bill 132, authorizing the attorney general to proceed directly against physicians who obtained their licenses through misrepresentation, has been passed by the house.

DELAWARE

Bills Passed.—The following bills have been passed by the house and the senate: Senate bill 30, authorizing the establishment of a mental hygiene clinic under the direction of the trustees of the state hospital for the insane, and senate bill 31, authorizing the establishment of a psychiatric observation clinic in the state hospital for the insane; senate bill 102, authorizing the state board of examiners of graduate nurses to formulate and establish a curriculum and rules for training schools.

Bills Enacted.—The following bills have become laws: Senate bill 32, amending the law with respect to the sterilization of certain mental defectives by providing that any person who is feebleminded, epileptic or insane, whether confined to any state institution or at large, may be subject to sexual sterilization; senate bill 33, amending the law with respect to the sterilization of certain defectives by providing that all habitual or confirmed criminals who have been convicted of at least three felonies are subject to sexual sterilization; senate bill 36, requiring instruction to be given children in the public schools in physiology and hygiene, with special emphasis on the effect of alcoholic drinks, and house bill 271, amending the law relating to the board of health by providing for an additional member of the board, who shall be a doctor of dental surgery.

GEORGIA

Society News.—The second lecture under the Abner Wellborn Calhoun lectureship will be given by Dr. William S. Baer, clinical professor of orthopedic surgery, Johns Hopkins University School of Medicine, Baltimore, on arthritis.——The Fulton County Medical Society, Atlanta, was addressed, April 4, by Dr. Lila M. Bonner, Atlanta, on "Primary Lung Tumor."

IDAHO

New Medical Board.—The commissioner of law enforcement announced, March 24, the appointment of the following to the state medical board: Drs. Frank W. Almond, Boise; Charles F. Hanmer, Salmon, reappointed; Carroll C. Conant, Weiser; Henry W. Clouchek, Twin Falls, and Charles O. Moore, Paris. The board acts as a group to investigate and examine applicants for licenses to practice in the state.

ILLINOIS

Bill Passed.—House bill 99, appropriating $75,000 for hospital facilities for ex-service men at Jacksonville, has been passed by the house.

Preachers Require Vaccination to Attend Church.—Baptist, Christian and Methodist preachers in Eldorado joined in a campaign against smallpox recently, requesting persons who had not been successfully vaccinated or had not had smallpox to refrain from attending Sunday morning services. The *Illinois Health Messenger* notes that nurses were employed to greet the parishioners as they came to church and to ask them to exhibit evidence of immunity to smallpox. This was an effort to aid the local board of health, which at that time was endeavoring to prevent the spread of an epidemic in the community.

Bills Introduced.—Senate joint resolution 13 would deny that the state gave Congress jurisdiction over the medicinal and industrial alcohol and sacramental wine and would instruct the attorney general to institute appropriate proceedings to restore to the state the exclusive exercise of the police power of the state as applied to the manufacture, sale and transportation in interstate commerce of medicinal liquor, sacramental wine and industrial alcohol. House bill 565 would amend the law regulating the sale and distribution of narcotics by including cannabis indica among the narcotic drugs subject to regulation. House bill 492 would create a drugless science board of examiners of five members to prepare and direct all examinations of applicants for a license to treat human ailments by any drugless science without operative surgery.

Health Promotion Week.—Governor Emmerson has issued a proclamation designating the week beginning April 28 as "Health Promotion Week." The state department of health suggests that the importance of health be emphasized in sermons and addresses in the churches on Sunday, and that Monday be "Diphtheria Prevention Day," and Tuesday, "Health Literature Day," when the public is invited to read at least one article concerning health. "Child Health Day," Wednesday, May 1, will be celebrated with play and pageantry outdoors. On Thursday, "Food Facts Day," the individual should find out what a balanced diet is. Friday will be "Health Examination Day." The health department suggests that each person have an examination by a physician. Saturday will be

"Clean-Up Day," the day to screen against flies and mosquitoes, and to clean up the breeding places of insects.

Policy of New State Health Officer.—Dr. Andy Hall, recently installed state health officer, announced in an interview, April 11, that the policy of the health department would be an aggressive battle against disease in cooperation with the medical profession, every available resource consistent with economy being used in carrying on preventive measures, but treatment and cure being left strictly to the private physician. There is plenty of preventive work to do, he said, with diphtheria killing annually more than 500 children who could be saved through the use of toxin-antitoxin, with accidents causing nearly 6,000 deaths every year, with 4,000 of the 20,000 patients in state institutions there because of disease brought on through ignorant indiscretion, and with other preventable diseases causing 150,000 cases of illness annually. Dr. Hall believes that great results can be secured in the reduction of disease and the prolongation of life by applying the principles of preventive medicine to the people of Illinois in a way that will bring into play the harmonious cooperation of the practicing physician.

Chicago

Personal.—Dr. Will Walter, Evanston, will soon retire to his estate near Charlottesville, Va.——Dr. Rudolph Holmes, emeritus professor of obstetrics and gynecology, Rush Medical College, resides now at University, Va., from where he makes occasional visits to Chicago.

Hospital News.—Cardinal Mundelein announces the establishment of a 300 bed maternity hospital for white Catholic married women in the ten story Lakota Hotel, Michigan Avenue and Thirtieth Street, which is being remodeled. Complete obstetric care and a twenty-four hour service will be provided for a fee of $50. This, the *Bulletin* of the Chicago Medical Society says, is not expected to cover the cost of the service, as provision is to be made to care for all children in the family under 10 years of age while the mother is in the hospital. The institution is intended as an answer to birth control propaganda among families in this diocese.——A $300,000 sanatorium for children with heart disease is to be erected on the site of the old La Rabida Sanatorium in Jackson Park. The new building will be a replica of La Rabida, a monastery at Palos, Spain, where Christopher Columbus took refuge while planning his first voyage to America.——The new Southwest General Hospital, Fifty-Seventh and South Wood streets, has been opened with Dr. George W. Funck as president of the staff.——St. Luke's Hospital has appointed Mr. Charles A. Wordell, formerly superintendent of St. Luke's Hospital, Denver, as manager to succeed Mr. Louis R. Curtis.

Daily Analyses of Sunshine.—The Chicago department of health now makes daily analyses of sunshine throughout the year to determine its ultraviolet component in this locality, as it varies from day to day. The health department has concluded a sixteen months' study of the hourly variation of ultraviolet rays in sunshine. It was found that there were seven months of low ultraviolet values in Chicago sunshine extending from September through to April 1. A diagram prepared in connection with this study indicates the relation between the total number of sunshine hours in each month and the number of erythema hours. An erythema hour is one in which there is sufficient ultraviolet ray to produce redness and subsequent tanning of previously untanned skin in one hour. The study showed that the best hours of the day, as far as ultraviolet rays were concerned, were from about 9 a. m. to 5 p. m. from April to September; from about 10 a. m. to 3 p. m. in February and March, and from about 10:30 to 2 p. m. in October. In the remaining months the quality of sunshine was poor at all hours of the day. The health department cautions against the unlimited exposure of the body to sunshine during the first few exposures when the ultraviolet ray is strongest, as harm may be done. Persons desiring information concerning daily analyses of sunshine in Chicago may call the health department, Randolph 8000, extension 276.

IOWA

Bills Passed.—The following bills have been passed by the senate: Senate bill 344, permitting the state department of health to accept financial aid from the government of the United States for public health work in the state, and senate bill 393, authorizing the county board of supervisors to adopt the county unit plan for public health work and creating a county board of health. House bill 199, amending the law relating to contracts for the support of the poor by authorizing the board of supervisors of a county to contract for medical and dental services for poor persons, has been passed by the house and the senate.

MAINE

Bill Enacted.—House bill 1709, requiring all teachers and janitors in any public school to file a certificate from a licensed physician certifying that such person is free from infectious and communicable diseases, has become a law.

MARYLAND

Bills Enacted.—The following bills have become laws: Senate bill 85, regulating the sale and distribution of caustic and corrosive substances, and house bill 66, providing for an increase in the membership of the state board of health by the addition of a doctor of dental surgery.

MASSACHUSETTS

Bill Enacted.—House bill 53, providing for traveling and other necessary expenses of the board of registration for nurses, has became a law.

Dr. Chadwick Goes to Detroit.—The state commissioner of health announces that Dr. Henry D. Chadwick, who for twenty years has served at the Westfield State Sanatorium, is leaving for Detroit, where he will take charge of the tuberculosis service of that city.

Bill Passed.—Senate bill 340, providing that whenever a medical question is in dispute in any case before the department of industrial accidents and an impartial physician has not been appointed by the department, the employee may engage his own physician to testify in his behalf and, if the decision of the single member or of the department is in favor of the employee, a reasonable fee shall be allowed by the department for such physician's services, has been passed by the senate.

Society News.—The Milton Fund for Research of Harvard University has provided grants this year totaling $58,000 to aid members of the faculty in research.——Dr. George A. Moore, Brockton, presented a moving picture on "Carcinoma of the Breast" before the Plymouth District Medical Society, March 21.——At a joint meeting of the New England Pediatric Society and the Certified Milk Producers' Association, Boston, April 12, Dr. Richard S. Eustis read a paper on standards of certified milk in Boston, and Henry C. Sherman, Ph.D., Mitchell professor of chemistry, Columbia University, New York, on "Recent Advances in Chemistry of Nutrition."

Dr. Cushing Honored.—The April number of the *Archives of Surgery* is dedicated to Dr. Harvey Cushing of Boston on the occasion of his sixtieth birthday. The eighty-two contributors to this number are all pupils of Professor Cushing. Those pupils who were unable to contribute papers assisted in its publication. Dr. Cushing is the son of Dr. Henry K. Cushing, formerly professor of obstetrics and gynecology at Western Reserve University; his grandfather and great grandfather were physicians. He is a graduate of Harvard and served on the faculty of Johns Hopkins until 1912, when he became Moseley professor of surgery at Harvard and surgeon in chief at the Peter Bent Brigham Hospital.

Health at Somerville.—Telegraphic reports to the U. S. Department of Commerce from sixty-two cities with a total population of about 29,000,000, for the week ending April 6, indicate that the lowest mortality rate (7.6) was for Somerville, and that the rate for the group of cities, as a whole, was 13.7. The mortality rate for Somerville for the corresponding week last year was 13.2, and for the group of cities, 14.9. The lowest infant mortality rate for the week was for San Diego, Calif. The annual mortality rate for the sixty-two cities for the fourteen weeks of this year is 16.1, as against 14.1 for the corresponding weeks last year. Caution should be used in the interpretation of weekly figures, as they fluctuate widely. The fact that some cities are hospital centers for large areas outside the city limits or that they have a large negro population may tend to increase the death rate.

MICHIGAN

Bill Vetoed.—House bill 22, which would have created a board of chiropractic examiners, passed the house and senate and was vetoed by the governor.

Dr. Scoville Awarded Remington Medal.—The American Pharmaceutical Association has awarded the Remington Medal to Wilbur L. Scoville, D.Phar., chief of the analytic department of Parke, Davis and Company, in acknowledgment of his accomplishments as chairman of the National Formulary Committee. The National Formulary, a book of standards for pharmaceutic formulas, which derives its official authority and legal standing by virtue of the federal Food and Drugs Act, was originated by the American Pharmaceutical Association in

1888, and it is revised every ten years by a committee. Dr. Scoville has been on the staff of Parke, Davis and Company since 1907, has served on the National Formulary Committee for three revisions of the formulary, and was a member of the revision committee of the U. S. Pharmacopeia for the 1900 and 1920 revisions. The association in 1922 awarded him the Ebert Prize for the most outstanding article presented in its annual meeting.

Society News.—The Oakland County Medical Society was the guest of the Oakland Motor Car Company, Pontiac, March 21; Dr. Leslie W. Gately, Pontiac, spoke on "Prophylactic External Version in Breech Presentation," and Dr. E. Gordon, Detroit, on "Epidemic Meningitis."——The Michigan State Medical Society and the graduate department of medicine of the University of Michigan will sponsor a graduate course in medicine, surgery and laboratory work at the Receiving Hospital, Detroit, May 27-June 24. Material will be provided also for local dissections in special fields or for the practice of surgery. The University Hospital, Ann Arbor, is giving two-week intensive courses during April, May and June in the technic of the Kahn test and in general laboratory methods. Six courses varying from four to eight weeks are being offered in roentgenology. Further details may be had from the director of postgraduate medicine, University Hospital, Ann Arbor, Mich.——The Macomb County Medical Society, Mount Clemens, was addressed, March 4, by Dr. William N. Braley, health officer of Highland Park on "Obscure Fevers in Children."——The Kalamazoo County Medical Society was addressed, February 19, by Dr. Charles G. Jennings, Detroit, on "Acute Respiratory Infections."——A symposium on "the acute abdomen" was presented before the Wayne County Medical Society, Detroit, April 16, by Drs. Louis J. Morand, Volney N. Butler, Miln C. Harvey, Fred B. Wight and Charles J. Barone.

MISSISSIPPI

Society News.—The February meeting of the Issaquena-Sharkey-Warren Counties Medical Society was addressed, among others, by Dr. Harley R. Shands, Jackson, on "Cesarean Section in the Treatment of Eclampsia."——A public reception was held at the opening of the Madison County King's Daughters' Hospital at Canton, which was financed through a city bond issue of $15,000, appropriations from the county, and donations by fraternal organizations.——The North East Mississippi Thirteen Counties Medical Society was addressed at Okolona, March 19, among others, by Dr. Frank C. Spalding, West Point, on "Pyosalpinx Complicating Labor," and by Dr. William H. Frizell, president of the state medical society, on "Some of Our Professional and Associational Needs."——The East Mississippi Medical Society was addressed, February 21, at Newton, among others, by Dr. Thomas D. Bourdeaux, Meridian, on "Angina Pectoris and Coronary Thrombosis."

Personal.—Dr. Mark F. Boyd has been appointed director of the division of malaria control of the Mississippi State Board of Health. Dr. Boyd previously was associated with the International Health Board of the Rockefeller Foundation and was director of the station for field studies in malaria at Edenton, N. C.——Dr. James I. Mayfield has been elected president of the Bank of Blue Mountain to succeed the late Lee Godwin.——Dr. William L. Stallworth has been appointed city health officer of Columbus.——Dr. Richard J. Peterson of the Touro Infirmary, New Orleans, has been appointed house physician at the South Mississippi Charity Hospital, Laurel, succeeding Dr. John R. Johnson, resigned.——Dr. Richard M. Boyd, Aberdeen, was awarded a citation of gallantry by the war department, March 1, in recognition of bravery in action in Cuisy, France, Oct. 7, 1918, when, under shell fire, he cared for and evacuated wounded men.——Dr. James W. Barkley, Ripley, has been appointed health officer of Tishomingo County, succeeding Dr. Taswell P. Haney, Jr., who resigned to accept a similar position in Holmes County.

MISSOURI

Correction—Bill Passed.—The item published April 13, stating that house bill 660 permitting osteopaths to employ narcotics in their practice had passed, was erroneous, owing to a mistake by the reporting service. This bill has not been passed and is still on the calendar in the house, having been reported out of the committee without recommendation.

Alumni Banquet.—The fifth annual banquet of the Ensworth-Central-Northwestern Medical College Alumni Association will be at St. Joseph, June 6, preceded by clinics. Alumni having the names of graduates of any of the three colleges should send them to the secretary, Dr. Charles W. Fassett, Kansas City, Mo., promptly, so that they may be invited to the meeting.

Society News.—Among others, Dr. Alphonse McMahon addressed the St. Louis Medical Society, April 2, on "Basal Metabolism in Pulmonary Tuberculosis," and Drs. Warren H. Cole and Nathan A. Womack on "Infection as an Etiologic Factor in Thyrotoxicosis."——Dr. Jabez N. Jackson, recently President of the American Medical Association, addressed the Jackson County Medical Society, April 9, on "Correct Operative Procedure for Carcinoma of the Breast," and Dr. Edward H. Hashinger, Kansas City, on "Monocytis Leukemia." At the annual banquet, April 2, the society honored the following physicians who have been in practice fifty years: John Wilson, Charles W. Burrill, Homer O. Leonard, Winn F. Morrow, John S. Mott, Caleb A. Ritter, John R. Snell, John H. Thompson and Ernest Von Quast of Kansas City, and Oliver C. Sheley of Independence, Mo.——The Jasper County Medical Society was addressed, recently, by Dr. Jesse D. Douglass, Webb City, on "Nontuberculous Hemorrhage of the Lungs."——The Jackson County Medical Society, Kansas City, was addressed, April 16, by Dr. John M. Mayhew, Lincoln, Neb., on "Postpneumonic Myocarditis," and by Drs. Paul F. Stookey and Benjamin Landis Elliott, Kansas City, on "Epidemic Meningitis." The society will be addressed, April 23, by Dr. Andre Crotti, Columbus, Ohio, on "Thyroid Problems," and April 30, by Dr. Eugene S. Kilgore, San Francisco, on "Precordial Pain," and Dr. Adolph Sachs, Omaha, on Hemochromatosis."——The Buchanan County Medical Society has appropriated $75 for the distribution of *Hygeia*, the health magazine published by the American Medical Association, in the public schools.

NEW JERSEY

Bill Passed.—The senate has passed senate bill 74, permitting a county without a county hospital to appropriate a sum not to exceed $50,000 annually to any one hospital which permanently maintains a building for the care and treatment of contagious and infectious diseases.

Bills Introduced.—Senate bill 296 would regulate the sale, possession and distribution of narcotic drugs. Senate bill 294 would amend the pharmacy act by providing a penalty for the violation of the act of not less than $25 nor more than $50 for the first offense; not less than $50 nor more than $100 for the second offense, and not less than $100 for each subsequent offense.

NEW MEXICO

Hunting for Old Bones.—An expedition was sent out by the U. S. National Museum and the Peabody Museum of Yale University, March 25, to excavate an extinct fumarole near Aden in Dona Ana County, New Mexico, in which fossils have been found. *Science* describes the location as a gap into the interior on the side of an old volcanic crater in the floor of which lies a seemingly bottomless pit. In this pit the fossil of the Yale ground sloth was found. Perhaps many forms of animal life blundered into this pit in ages past and died. The expedition will excavate the entire cavern and remove the 90 tons of bat guano therein which is thousands of years old. This will be sifted to insure against the loss of any bones, however small. It is believed that specimens will be found which may be upward of 500,000 years old.

Biennial Health Report.—The bureau of public health of New Mexico has issued a report on its work of the last two fiscal years. There is no statistical summary of causes of death published in this report because at that time the department was not getting 90 per cent registration of causes of death. The outbreak of infantile paralysis in 1927 and that of malaria in Dona Ana County, both of which at the time were noted in THE JOURNAL, are described. The report states that there were no specialists in New Mexico to assist the victims of infantile paralysis, so an experienced physical therapeutist was imported to teach parents what to do and to help others to obtain surgical care. What the final outcome of this experiment will be cannot be estimated now. A traveling milk laboratory was lent to the health department by the American Child Health Association; as a result two pasteurizing plants were established, and the establishment of three others is under consideration. A trained teacher was supplied to two normal schools in the summer of 1927 through the help of the National Tuberculosis Association; as a result health courses in these schools have been established. There were eight full-time county health units in operation at the beginning of the period covered by this report, but one closed because of differences of opinion in the county "that could not be com-

posed." The remaining twenty-two counties were on the part-time plan, the health work being done by a physician who is also engaged in private practice. Diphtheria and typhoid increased during the last fiscal year.

NEW YORK

Bill Enacted.—House bill 1473, amending the law in relation to the termination of licenses to practice medicine held by those who have not attained citizenship by providing that on failure of such licensees within ten years from the date of the issuance of the license to furnish evidence of actually having become a citizen, the license shall terminate and the registration shall be annulled.

Three Fellowships Endowed.—Albany Medical College has made an agreement with the Nathan Littauer Hospital at Gloversville whereby small groups of students will visit the hospital to study cases and attend clinics. A member of the hospital staff will be appointed to the faculty of the college. The Lucius N. Littauer Foundation has made a grant of $50,000 to Albany Medical College to establish three research fellowships, two in pathology and one in physiology and research medicine, which will be named in memory of the donor's mother, Harriet Sporborg Littauer. The hospital at Gloversville was founded by Mr. Littauer in 1894 as a memorial to his father.

Typhoid Carriers Discovered.—During last year twenty newly discovered typhoid carriers in up-state New York were added to the records of the state department of health. There are now on the records 167 carriers up-state outside of state institutions and thirty-one in state institutions. The twenty new ones were discovered by various health departments, by attending physicians and by routine examinations of food handlers. These twenty are said to have been liable for forty-eight cases of typhoid during 1928. Two of them gave a history of never having had typhoid; one of them had had it as long as thirty-seven years before, and another had had a questionable attack fifty-one years before, and a definite attack about a year previous to discovery.

New York City

City Hospital Appointments.—The new commissioner of hospitals has appointed Dr. Mark L. Fleming to be in charge of Bellevue and Kings County hospitals; Dr. Fleming was formerly general medical superintendent of Bellevue Hospital; Dr. Menas S. Gregory has been made chief of the city's new department of psychiatry, and Dr. James Smith, medical superintendent of all contagious disease hospitals. Another department is to be formed which will comprise the tuberculosis and cancer patients, nurses, laboratories, transportation, storehouses and morgues.

Tons of Dust in the Air.—In a campaign by the health department to reduce the amount of dust and smoke in the atmosphere Prof. Harold H. Sheldon, Ph.D., of the physics department, New York University, measured the dust and dirt which collected in the chambers of certain theaters in which the air is purified before entrance. In a week, these chambers were covered with dirt to a depth of three-fourths inch. The amount of air cleaned at the theater was known. New York's square mileage was known. Two hundred feet perpendicularly was taken as the immediate atmosphere of the city. Thus it was possible to estimate the amount of dirt in the atmosphere about the city. On this basis it was found to be 2,100 tons.

Society News.—The Association for Personality Training held a dinner meeting and symposium at the Town Hall Club, 123 West Forty-Third Street, April 16. Among others, Harry A. Overstreet of the philosophy department of the College of the City of New York spoke on "Personality: What Are We Adjusting For," and Emily Burr, Vocational Adjustment Bureau, on "Practical Methods in Personality Adjustment."——Forty-six persons attended the third annual dinner of the department of dermatology and syphilology at the Yale Club, recently.——The Fifth Avenue Hospital, which has established a clinic for the study and treatment of bleeding and clotting conditions, desires to obtain a varied series of patients with bleeding or clotting tendencies to test methods of treatment with which good results have already been obtained. Patients studied will be referred to physicians for continuance. The clinic will be conducted by Drs. Isaac N. Kugelmass, Margaret Stanley-Brown and John E. Tritsch.——Among others, Dr. Walter M. Simpson, Dayton, Ohio, addressed the Medical Society of the County of Kings, April 16, on tularemia and undulant fever, and Dr. Charles T. Graham-Rogers, Brooklyn, on health, accidents and the general practitioner.

New York's One Hundred Horses.—Nearly all of the diphtheria serum used locally is prepared about 75 miles away in the Shawungunk Mountains at the Otisville Laboratory Farm of the city health department. New York was the first municipality in the world to establish an antitoxin laboratory. Of the 100 horses kept on the Otisville Farm, twenty-five are producers of diphtheria serum. The other horses produce tetanus, meningitis and pneumonia serums. "Old Faithful," an ex-member of the city fire department, has in this manner, the Diphtheria Prevention Commission says, saved the lives of 20,000 young people. New York has taken the leading part in the prevention of diphtheria among school children, more than 500,000 of whom in the last ten years have been treated with toxin-antitoxin without a single case of injury or death due to this measure. The city is now endeavoring to eradicate diphtheria. During the first nine weeks of the Diphtheria Prevention Commission's work, physicians purchased 4,191 toxin-antitoxin outfits from the city health stations, and 1,323 were distributed free at the borough stations. Physicians can obtain toxin-antitoxin free at any of the borough offices of the health department, or for 25 cents at any health station of the city. Dr. William H. Park has been outstanding in perfecting the method of immunizing childen by means of a neutral mixture of toxin and antitoxin.

OHIO

Bills Passed.—The house and the senate have passed the following bills: House bill 13, requiring municipalities or townships to furnish medical, hospital and quarantine services to indigent persons; house bill 236, amending the law relative to pharmacy by eliminating examinations for assistant pharmacists. The house has passed house bill 169, providing for court-appointed expert witnesses, including medical experts, in civil actions.

Chiropractors Defeated Four Times.—The bill to provide a separate state board to examine and license chiropractors in Ohio was defeated in the house, March 27, following a debate of two hours. This was the fourth consecutive time the bill was defeated in the house. According to the *Pittsburgh Medical Bulletin,* Representative Hoover of Canton, who previously supported the bill, spoke against it, stating that he is sure how the people stand on it, since in a referendum two years ago it was voted down by a majority of 242,481.

Personal.—Dr. Elias C. Fischbein has been elected president of the Academy of Medicine of Dayton for the ensuing year.——Dr. George W. Blakeley, Washington Court House, was guest of honor at a dinner given by the Fayette County Medical Society, March 6, in celebration of his fifty-one years in the practice of medicine.——Dr. John M. Smith, New Philadelphia, was guest of honor at a dinner, March 14, given by the Tuscarawas County Medical Society in recognition of his long service in the practice of medicine.——Victor C. Myers, Ph.D., professor of biochemistry, has been elected secretary of the faculty of the Western Reserve University School of Medicine. Dr. Myers came to Western Reserve from the State University of Iowa two years ago.——Dr. John M. Withrow has resigned as president of the staff of Christ Hospital, Cincinnati.——Dr. Carl R. Hiller was bequeathed $10,000 by the will of the late W. H. Schmidlapp of Cincinnati, whose family physician he was.——Dr. Auguste Rhu, Marion, was presented with a silver vase, recently, by his fellow volley ball players. Dr. Rhu is 80 years of age; he is said to have learned to swim at 79.

State Medical Meeting at Cleveland, May 7-9.—The eighty-third annual meeting of the Ohio State Medical Association will be held in the Public Auditorium at Cleveland, May 7-9, under the presidency of Dr. Charles W. Stone of that city. The meeting will open unofficially, Monday, with the annual golf tournament, followed by the golf banquet and awarding of prizes. The scientific meetings begin Tuesday afternoon. Among the visiting speakers will be Drs. Edward J. G. Beardsley, Philadelphia, on "Importance of Recognition of Psychoneurosis in Everyday Medicine," and John M. Wheeler, New York, "Exophthalmos from Different Causes." Papers will be presented also by many Ohio physicians, and the Cleveland Academy of Medicine has arranged clinics at local hospitals for Monday afternoon and Tuesday morning. The first general session will be Tuesday morning with the house of delegates; Tuesday evening, the president and president elect will give addresses preceding a reception in their honor; at this session, Thurman Miller, editor of the Wilmington *News Journal,* will give "A Frank and Humorous Discussion of a Newspaper Man's View of Doctors." Wednesday afternoon the annual orations will be delivered by Drs. William L. Keller, Washington, D. C., on "Treatment of Tuberculous Empyema," and James S. McLester, Birmingham, Ala., on "The Protein Problem in Diet." The fourth general

session, Wednesday evening, will be addressed by Dr. Malcolm L. Harris, Chicago, President Elect of the American Medical Association, on "Economic Value of Medical Service," and by Dr. James J. Walsh, professor of neurology, Fordham University, New York, on "The Mind and the Body." Thursday morning, the medical and surgical sections meeting jointly will be addressed by Dr. Beardsley. According to the *Ohio State Medical Journal*, this meeting promises to be one of the most interesting and beneficial in the history of the association.

OKLAHOMA

Personal.—The resignation of Dr. Oliver O. Hammonds, Oklahoma City, as state health officer has been accepted by Governor W. J. Holloway.——Dr. Pierre N. Charbonnet has been elected president of the staff of St. John's Hospital, Tulsa, for the ensuing year.

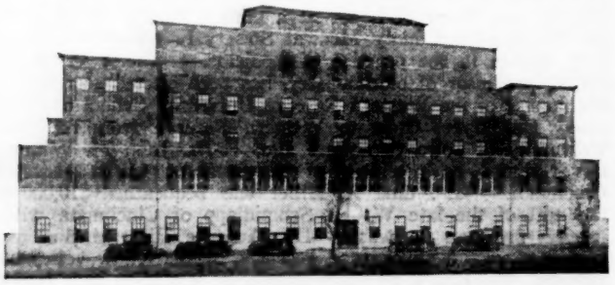
PENNSYLVANIA

Bill Introduced.—House bill 2011 would amend the drug act by including marihuana among the substances deemed to be "drugs" within the meaning of the act.

Personal.—Dr. Walter F. Mylin has been made chief physician at the Pennhurst School, Pennhurst.——Dr. Kenneth Fowler, Danville, has been appointed director of laboratories at the Jewish Hospital, St. Louis.——Dr. Enoch H. Adams has resigned as assistant surgeon at the Geisinger Memorial Hospital, Danville, after eight years' service and will go to Memphis, Tenn., as a member of the staffs of the Polyclinic and the Baptist Hospital.

Bills Enacted. — The following bills have become laws: Senate bill 61, authorizing cities of the third class to appoint boards of health; senate bill 417, requiring midwives to be licensed and registered by the state board of medical examination and licensure; house bill 565, providing that in school districts of the first, second and third classes, the physical examination of a minor provided for by law shall be made by a physician employed by the board of school directors, and house bill 786, providing that any board of school directors may employ one or more school nurses in any two or more school districts and may jointly employ school nurses.

Tuberculosis League of Pittsburgh. — Beginning with twenty beds in 1907 in a frame dwelling on Herron Hill, the Tuberculosis League of Pittsburgh has grown to be an institution of 150 beds with five buildings. The new six story building illustrated here was opened in January. All of its



rooms and wards open on porches. The fifth floor is devoted to heliotherapy, artificial and direct. An auditorium provides for lectures and the entertainment of patients. There are operating rooms, examining and roentgen-ray rooms, and a library. While the primary object of the Tuberculosis League of Pittsburgh is education, it is a part of the medical center of the University of Pittsburgh and is affiliated with the medical school. The institution has been built by voluntary subscriptions and with the assistance of civic bodies. A pioneer in introducing health talks in the schools, it established the second open-air school in America. The city board of education now supplies a teacher for this work, and furnishes a room and books; children are recommended to the school by school physicians and nurses. The league has a dispensary where, in fifteen years, advice and free treatment have been given to about 30,000 persons. There is a building for women and children with forty-two beds in glass-enclosed porches. The building for male patients formerly was used in the care of tuberculous ex-soldiers. Last year the institution's nurses visited 4,656 patients in their homes. The educational department gave 990 lectures before nearly 100,000 people. The health library of the league serves the community. Medical students receive instruction in tuberculosis here. The medical director of the league is Dr. C. Howard Marcy, assistant professor of medicine at the University of Pittsburgh School of Medicine.

Philadelphia

Society News.—Drs. James D. Barney, Fletcher H. Colby and Channing S. Swan, all of the staff of the Massachusetts General Hospital, Boston, addressed the Philadelphia County Medical Society, April 10, on "Coccus Infection in and About the Kidney," "Bladder Involvement in Diverticulitis of Sigmoid," and "Hematuria," respectively. During "public health week," May 8, Dr. James B. Herrick, emeritus professor of medicine, Rush Medical College, Chicago, will address the society on "Prevention and Relief of Heart Disease in Adults."——Dr. Henry F. Helmholz, Rochester, Minn., gave the Frederick A. Packard Memorial Lecture before the Philadelphia Pediatric Society, April 9, on "Experimental Pyelitis and Its Relationship to Urinary Infection in the Infant."——Among others, Drs. P. Sloane and Lauren H. Smith presented a "Cinematograph of Acute Reactions" before the Philadelphia Psychiatric Society, April 12.

RHODE ISLAND

Bill Introduced.—House bill 773 provides for the annual licensing of hospitals by the state board of health.

Typhoid at Brown University.—One sophomore at Brown University, Providence, had died, up to March 25, following an outbreak of typhoid due to the contamination of food at a fraternity house by a cook who was found to be a typhoid carrier. Several members of the fraternity were taken ill.

SOUTH DAKOTA

State Medical Meeting at Mitchell, May 7-9. — The forty-eighth annual meeting of the South Dakota State Medical Association will be at Mitchell, May 7-9, under the presidency of Dr. Nelson K. Hopkins, Arlington. The meeting for the public, Wednesday evening, will be addressed by Dr. Arthur J. Cramp, secretary, Bureau of Investigation, American Medical Association, Chicago, on "Patent Medicine and the Public Health." The scientific sessions on Wednesday comprise clinics by Drs. Arthur Steindler, professor and head of the department of orthopedic surgery, State University of Iowa College of Medicine; Adolph Sachs, professor of medicine, Creighton University School of Medicine, Omaha, and Charles C. Higgins, Cleveland. In the afternoon Drs. Steindler will speak on "Laminectomy in Disease of the Spinal Column"; Dr. Sachs, "Arthritis," Dr. Higgins, "Special Points in Management of Diseases of the Thyroid," and Dr. Richard S. Ahrens, Minneapolis, "Migraine." The annual association dinner will follow these papers. Clinics on Thursday will be given by Drs. Naboth O. Pearce, assistant professor of pediatrics, University of Minnesota School of Medicine; Michael M. Ebert, assistant professor of dermatology, Rush Medical College, Chicago, and John P. Schneider, associate professor of medicine at the University of Minnesota. In the afternoon, Dr. Pearce will speak on cod liver oil and ultraviolet ray in care of infants and children; Dr. Ebert, dermatology, and Dr. Schneider, pernicious anemia. The house of delegates will hold its annual meeting, Tuesday afternoon, at the Elks Club.

TENNESSEE

Bills Introduced.—Senate bill 996 provides for finger-print identification of infants in the hospitals in which they are born. House bill 1299 permits physicians who have practiced for ten years to conduct drug stores or pharmacies and to sell drugs, and to compound and sell physicians' prescriptions, in towns having a population of not more than 2,000 inhabitants.

Society Objects to Cigaret Advertising. — The Gibson County Medical Society, Trenton, March 4, passed a resolution opposing certain advertising being used by cigaret manufacturers. The society was of the opinion that "the pernicious practice of advocating cigarets in place of wholesome food should be condemned, and that steps should be taken to prevent the dissemination of this form of advertising, which is detrimental to public health."

Personal.—Dr. Charles Sidney Burwell, professor of medicine, Vanderbilt University School of Medicine, Nashville, gave an address at the Massachusetts General Hospital, Boston, March 14, on "Mechanisms of Heart Failure."——Dr. Walter E. Garrey, professor of physiology, Vanderbilt University School of Medicine, Nashville, gave a Mayo Foundation lecture at Rochester, March 29, on "The Basal Leukocyte Count and Physiologic Leukocytoses."——Dr. Eugene L. Bishop, Nashville, state health commissioner, has been appointed a member of the board of scientific directors of the International Health Division of the Rockefeller Foundation.

UTAH

Society News.—The Salt Lake County Medical Society and the Utah Ophthalmological Society met jointly at Salt Lake City, recently, when a special committee reported on the meningitis situation in that city. It was the opinion that no valid grounds existed "for the hysteria that seems to be spreading in some localities." A letter from Surgeon General Ireland of the U. S. Army was read expressing appreciation to members of the society for assistance rendered to medical authorities at Fort Douglas from time to time.——The Utah County Medical Society has reduced its dues to $7 a year. ——The new Cache Valley General Hospital at Logan, costing $60,000, is about ready for occupancy.

VERMONT

Society News.—The Burlington and Chittenden County Clinical Society was addressed, February 28, by Dr. David M. Bosworth, New York, on "Low Back Pain—Medical, Gynecologic or Orthopedic."——The Bennington County Medical Society was addressed, March 12, by Drs. Oliver N. Eastman, associate professor of obstetrics, University of Vermont College of Medicine, on "Reduction of Maternal Mortality"; Charles K. Johnson, professor of pediatrics, "Reduction of Infant Mortality"; William G. Ricker, St. Johnsbury, "Care of the Eyes in Infancy," and Charles F. Dalton, president of the state medical society, "Importance of Vital Statistics."

WASHINGTON

Bill Enacted.—House bill 197, regulating the sale and distribution of caustic and corrosive substances, has become a law.

Society News.—At a meeting of the North Pacific Society of Internal Medicine, Seattle, March 9, Dr. Arthur S. Rosenfeld, Portland, Ore., read a paper on mediastinal lymphadenitis, and Dr. John H. Fitzgibbon, Portland, Ore., "Treatment of Esophageal Stenosis."——The King County Medical Society, Seattle, was addressed, April 1, by Prof. Frederick A. Osborn, Ph.D., of the University of Washington, on "Sources of Visible and Infra-Red Radiation for Deep Therapy."——The Whatcom County Medical Society was addressed, March 4, by Dr. John Reid Morrison, Bellingham, on "Relation of Acute Articular Rheumatism to Heart Disease."

Personal.—Rachel E. Hoffstadt, Ph.D., assistant professor of bacteriology, University of Washington, Seattle, who has been awarded the Mary Pemberton Nourse Memorial Fellowship of Public Health under the American Association of University Women, plans to study in Paris with Besredka and Ramon of the Pasteur Institute, and in Brussels with Bordet. Dr. Hoffstadt has recently published three studies on typhoid immunization by the oral method.——Dr. Burton A. Brown has been reappointed superintendent of the Pierce County Hospital, Tacoma.——Dr. Charles L. Moad, after twelve years' service as medical director of the Spokane County Infirmary at Spangle, resigned, March 1. The infirmary henceforth is to be used as a county hospital.

Survey of Mental Patients.—A census of mental patients in the three state hospitals of Washington, made by the U. S. Department of Commerce with the cooperation of the state department of business control, shows that 907 persons were admitted to hospitals for the first time during 1927, as compared with 871 in 1922. The increase in first admissions to the Washington state hospitals during this period was relatively smaller than the growth in the state's population, as shown by the fact that the first admissions in 1927 numbered 58.1 per hundred thousand of population as compared with 61.3 in 1922. The number of mental patients under treatment in the state hospitals, however, has increased steadily from 1,987 on Jan. 1, 1910, to 4,251 on Jan. 1, 1928, and of the latter number 2,484 were males and 1,767 females. The figures for 1927 and 1928 are preliminary and subject to correction.

WEST VIRGINIA

Society News.—Dr. Hugh H. Trout, Roanoke, Va., addressed the Ohio County Medical Society, Wheeling, March 29, on "New Principle in Treatment of Ulcers Due to Varicose Veins and Lymphatic Blockage," illustrated with moving pictures.——The Fayette County Medical Society was addressed, March 12, by Dr. Claude A. Frazier, Powellton, on "Delayed Labor," and by Dr. Edward S. Hamilton, Oak Hill, on "Focal Infection."——The McDowell County Medical Society was addressed, March 13, by Dr. James C. Killey, Vivian, on "Treatment of Pyelitis in Children."——The Harrison County Medical Society was addressed, March 7, by Dr. George F. Evans of the Hopemont Sanatorium on "Tuberculosis in Children," and Dr. Charles H. Hall, Elkins, on "Calcium Chloride Intravenously in Treatment of Tuberculosis."——The Eastern Panhandle Medical Society was addressed, March 13, by Dr. Harry M. Hall, Wheeling, president of the state medical society, on "State Medicine," following which a moving picture, "How Biologicals Are Made," was exhibited.——The Monongalia County Medical Society was addressed, March 5, by Dr. Raymond A. D. Gillis, Pittsburgh, on "Preserving the Pelvic Floor During Labor."——Dr. Charles W. Wainwright, Jr., Baltimore, addressed the Ohio County Medical Society, March 15, on "Malta Fever in the United States."——The Kanawha County Medical Society had a discussion of the electrocardiograph, March 19, by Drs. Ritchie A. Ireland and George W. Shriver, Charleston.

GENERAL

Reduction in Price of Arsphenamine.—The prewar price of arsphenamine in ampules (imported from Germany) was $3.50 per ampule. The present contract price to the government, according to the U. S. Tariff Commission, is 18 cents per ampule. The amount of neoarsphenamine produced in this country in 1928 was 4,800 pounds, and its value, $1,540,000. The commission states that 1,816,000 pounds of aspirin (acetylsalicylic acid) was produced in this country in 1928, the value of which was $1,470,000.

Study of Eclipse of Sun, May 9.—Three expeditions from American observatories are en route to the Philippine Islands and Malay Peninsula to study the eclipse of the sun, which will last from three to five minutes, May 9. If good weather prevails, studies may be possible which will increase available information concerning ultraviolet and infra-red rays and reveal new lines in the spectrum. Among the special instruments to be used for the study is a camera which permits only ultraviolet rays to reach the sensitized plate and another which permits only infra-red rays to reach the plate. The party from Harvard University, with Prof. Harlan T. Stetson in charge, will make observations at Alor Star in the province of Kedah, Malay Peninsula. Some European observatories also are sending out expeditions.

Botulism Toxin in Canned Onions.—The U. S. Department of Agriculture reports that a certain shipment of canned onions imported from Italy has been confiscated in large part as a result of tracing the death of a man in Chicago to food poisoning and the serious illness of another. State officials have been instructed to search out and confiscate any of this product within their states, although prompt action by the federal authorities is believed to have already removed most of this shipment from the market. The particular brand reported in this instance was "Shalots Cipolline Lampasciu, Regina Brand, Ditta Riccardo Bozza, Stabilimento Scafati, Naples, Italy." Government bacteriologists have examined 368 specimens collected from various cities and have found twenty-two of them highly toxic. The onions were apparently underprocessed, so that they were not rendered sterile.

Congress Establishes Narcotic Farms.—The last Congress established two narcotic prison farms for drug addicts and placed the U. S. Public Health Service in charge of the management, discipline and treatment of persons sent to the farms. Only prisoners committed by the federal courts will be received. One farm will be for female prisoner addicts; the other for male prisoner addicts. The farm sites will be selected by the attorney general, the secretary of the treasury and the secretary of war. A narcotic division has been set up in the public health service, with Dr. Walter L. Treadway placed in charge. The narcotic farms will involve three phases, according to present plans: (1) treatment of withdrawal symptoms; (2) rehabilitation; (3) custodial care. These farms will not only rid the nation of many habitual criminals but will aid in the scientific study of drug addiction. Prominent specialists are giving advice in establishing this work.

Society News.—The Philadelphia College of Pharmacy and Science has decided to establish a four year bachelor of science course in pharmacy exclusively and to abolish the present three year pharmaceutic graduate course.——The American Pharmaceutical Association will expend $750 after October 1 for the encouragement of research. Investigators desiring aid should communicate before June 1 with the chairman of the committee, H. V. Arny, 115 West Sixty-Eighth Street, New York.——At the annual meeting of the American Association for the Study of Goiter, Dayton, Ohio, March 27, Dr. James Tate Mason, Seattle, was made president; Dr. Kerwin W. Kinard, Kansas City, Mo., president elect, and Dr. Julius R. Young, Terre Haute, Ind., secretary.——The first International Library and Bibliographical Congress, which will be held in Rome and

Venice, June 15-30, will have twelve sections, each having a president, two of whom are W. W. Bishop of the University of Michigan library, and Theodore W. Koch, librarian of Northwestern University. All librarians, publishers and others interested in bibliography are welcome.——Dr. E. Starr Judd, Rochester, Minn., was elected president of the Western Surgical Association, and Dr. Frank R. Teachenor, Kansas City, Mo., secretary, for the ensuing year. The next annual session will be held at Del Monte, Calif.——Dr. Ludvig Hektoen, Chicago, was elected president, and J. M. Sherman, Ph.D., Ithaca, N. Y., secretary, of the Society of American Bacteriologists, for the ensuing year. The next annual session will be held at Ames, Iowa, Dec. 30-31, 1929, and Jan. 1, 1930.——During the state medical meetings, the Kansas alumni chapter of Phi Beta Pi will hold a luncheon, May 8, at Salina, Kan.; the South Dakota alumni chapter, at Mitchell, S. D., May 8, and the Iowa alumni chapter, May 9, at Des Moines.——At the annual meeting of the American Association of Pathologists and Bacteriologists, in Chicago in March, Dr. George H. Whipple, Rochester, N. Y., was made president; Dr. George R. Callender, Washington, D. C., president elect, and Dr. Howard T. Karsner, Cleveland, secretary. The next annual session will be in New York, April 17-18, 1930.——At the fifty-sixth annual convention of the Northern Tri-State Medical Association, Toledo, Ohio, April 9, Dr. Robert V. Hoffman, South Bend, Ind., was elected president; Dr. Norris W. Gillette, Toledo, Ohio, vice president, and Dr. Charles F. Kuhn, Detroit, secretary.——President Hoover has issued a proclamation setting aside May 1 as Child Health Day and inviting all organizations and agencies to assist in bringing about a nation-wide understanding of the importance of child health.

CANADA

Farmer Treats Fracture with Spavin Cure. — Laban Wagner's fourth wife was assisting him at making hay at New Canada, Nova Scotia, last July when she fell and broke her arm and leg. Her husband refused to call medical aid, according to the *Canadian Medical Association Journal*, but treated her injured limbs with a spavin cure. Legal proceedings were instituted against the husband. At the time of this report, Wagner was out on bail.

Canadians Prefer the M.D. Degree.—Since the University of Toronto announced its decision to confer the degree of doctor of medicine hereafter and to bestow that degree on any graduate of the medical school who may apply for it, 305 medical graduates have made application for the degree. Toronto University, according to the *Canadian Medical Association Journal*, is possibly the last university on the continent to adopt the practice of granting the M.D. degree to students on graduation.

"Eye Specialists" Fleece Another Farmer.—Robert Lannin, reported to be a wealthy farmer living near Kingsville, South Gosfield township, Ontario, gave two traveling "eye specialists" $500 for a fraudulent operation which he was induced to believe was necessary to save his sight. The operation consisted, Lannin is reported to have said, of snipping off some eyelashes and massaging his eyes. Fraudulent eye "operations" have been repeatedly reported in THE JOURNAL in some central and western states.

British Physicians at Reduced Rates. — An item in the *Canadian Medical Association Journal* states that advertisements have appeared in British medical journals regarding vacancies in practice in western Canada. The writer says that the advertisers hope to secure physicians from Great Britain at reduced rates and that British physicians interested have inquired why these vacancies in western Canada are not filled by Canadians. He asks, Why do some communities consider that a physician should accept $2,500 a year when school inspectors receive $3,000 a year and expenses, and deputy ministers about $5,000?

Dr. Best Succeeds Professor Macleod.—Dr. Charles H. Best, who was associated with Dr. Banting in the discovery of insulin, has been appointed professor of physiology at the University of Toronto to succeed Prof. J. J. R. Macleod, who has left to accept a chair at the University of Aberdeen, Scotland. Dr. Best was appointed to this position at the age of 29. Other appointments at Toronto include Drs. William L. Holman as professor of bacteriology and associate director of applied bacteriology; William L. Robinson, associate professor and associate director of applied pathology, and Wallace A. Scott, assistant professor of obstetrics and gynecology. Prof. Andrew Hunter, head of the department of biochemistry, expects to leave in April to take the chair of physiologic chemistry at the University of Glasgow. He has been at the university for thirteen years.

Foreign Letters

LONDON

(From Our Regular Correspondent)

March 23, 1929.

Severe Criticism of Treatment by Ultraviolet Radiation

The annual report of the medical research council for 1927-1928, just published, contains a searching criticism of the uses of ultraviolet rays in the treatment and prophylaxis of disease. The report declares that prolonged researches give no scientific reason to suppose that the treatment of rickets, or the supply of vitamin D to the body for any other purpose, is better effected by ultraviolet rays falling on the skin than by the direct provision of the necessary food values. The general evidence from the vigor of the human life enjoying natural food supplies in the most northern latitudes points in the same direction. Since the invisible rays of ultraviolet radiation were found to hold the nutritive properties of sunlight, it was natural to suspect that artificial lamps, rich in ultraviolet rays, might be an effective substitute for the missing sunshine in our cities. It was hoped that it might have other beneficial effects on child life besides its indirect value in supplying a vital food constituent. Heavy expenditure was soon incurred in the provision of lamp treatment in many schools and institutions. Since the children under treatment varied much in their states of nutrition, the results reported were in general, as was to be expected, widely conflicting or uncertain.

During the winter months of 1927-1928, the council invited Dr. Dora Colebrook, in its service, to arrange another scientifically controlled trial of the effects of light on children at school. This was done with the approval of the board of education and with the help of Dr. Buchan, health officer for Willesden. When conditions between the children with and without treatment were equalized, the results of the radiation were wholly negative. There was no gain in weight, height, or observed mentality or "spirits," and the incidence of minor ailments such as "colds" was actually higher among those irradiated. The council is not aware of any properly controlled experiments, made elsewhere, to set against these two series. The last report of the chief medical officer of the ministry of health shows that the results collected from artificial light centers provided by local authorities exhibit much variation of opinion, as would be expected for the reasons just given; but no objective evidence is provided that results have been achieved that could not have been far more cheaply gained by proper food; and if that is so it is obvious that exercise and fresh air are greatly preferable to indoor sessions around a lamp. The council states that light does cause an increase in the power of the blood corpuscles, as tested in shed blood, to dispose of bacteria. This has been largely used as a justification for the recent advocacy of light treatment not only for ailments of many kinds and as an aid to convalescence, but even for the preservation of a feeling of well being. But this increased bactericidal power of the blood, as shown in the laboratory, has not yet been correlated with any permanent effects of value in the body. It is quickly followed by a decrease of bactericidal power, which not only soon returns to the normal but at least sometimes goes below it afterward. There is no present reason to show that artificial light can do more in this way than a mustard plaster, which is infinitely cheaper.

As might be expected, this pronouncement has aroused much concern among those interested in the use of artificial light. An emergency meeting of the Ultra-Violet and Allied Trade Association, which is affiliated with the British Electrical and Allied Manufacturers' Association, was held to consider the report of the medical research council, and an official statement

was issued which has not yet been published. R. King Brown, medical editor of the *British Journal of Actinotherapy and Physiotherapy*, has written to the *Times* a reply to this "serious reflection." He says that the effects of light, including ultraviolet, visible and infra-red rays, are not yet fully understood. But evidence indicating the value of artificial light treatment is so strong that it is inconceivable to suppose that the patient work of thirty-five years can be negatived by a few experiments on a limited scale. The mere fact that rickets has not been stamped out in spite of the existence of cod liver oil indicates a vast field of usefulness for artificial light treatment, for in this condition such treatment is a specific remedy, owing to many effects not obtainable with cod liver oil. The German Scientific Expedition to Iceland (1926-1927) found that, although there is abundance of antirachitic food both in Iceland and in the Faroe Islands, rickets is much more prevalent in the latter, owing to the obscuring of sunlight by thick fogs. In many forms of surgical tuberculosis, too, artificial light treatment has been found almost a specific by authorities. The results obtained at the Finsen Institute in Copenhagen with artificial light are as good as those obtained with natural sunlight at Leysin in the Alps. Ultraviolet radiation can also be used with success in many conditions in which a "mustard plaster," as mentioned by the council, would be useless or impossible; for instance, in all cases in which the skin is broken.

Among many other replies from phototherapists may be noticed that of Dr. G. Murray Levick. He says that it has been found in many hospitals that many children who do not thrive on cod liver oil do thrive on artificial light treatment. He also points out that the use of the mercury vapor lamp without auxiliary apparatus to produce the solar rays other than the ultraviolet is a crude and incomplete method. Prof. Leonard Hill has recently called attention to the value of these rays (THE JOURNAL, March 9, p. 820). The same may be said of open carbon arcs employed in confined spaces. Dr. Levick asserts that the council's deductions have been based on treatment by these crude methods. To this reply the rejoinder might be made that the position of the majority of phototherapists is that excellent results have been obtained from the "crude" methods and that he only confirms the council's criticism of ultraviolet therapy.

An Indian Medical Council

Another step in the autonomy of India has been taken. A draft bill to establish a medical council and to provide for the maintenance of a British Indian medical register has been circulated by the government of India. In forwarding the report of his education department to the government at the beginning of the year, Sir Atul Chatterjee, the high commissioner, expressed the hope that in law, medicine and engineering the tendency for Indian students would be to come to England only for specialized education and experience. He felt confident that in this respect the formation of a general medical council for the whole of India would be of distinct advantage. The great majority of Indian students coming to this country to pursue medical courses wish to enter one of the London hospital medical schools, but the accommodation is fixed, and there are always more applications than vacancies.

At the last session of the general medical council, the president, Sir Donald MacAlister, spoke with approbation of the project to establish an Indian medical council to exercise effective supervision over professional teaching and examination in the provinces, having special regard to the external and central or nonprovincial aspects of the matter. The bill has been drafted somewhat on the model of the Canada medical act. The existing arrangements for the recognition of Indian qualifications for the purposes of the United Kingdom Register are unsatisfactory. The recognition secured by the majority of the Indian universities from the general medical council has been renewable at specified intervals as a result of inspections carried out by an expert on behalf of the council. That body has felt the difficulty of discharging its duty of satisfying itself of the quality of instruction and examination in medical colleges and universities in India by periodic visitation and inspection through its own agency. Many varying interests must be adjusted in the arrangements for setting up an Indian general medical council; but the passage of the bill should be facilitated by the consideration that its purpose is to make British India autonomous and uniform in the regulation of her own standard of medical qualifications.

The British Journal of Urology

The first number of a new journal devoted to urology has been published. Its object is to furnish urologists in Great Britain, Ireland, Egypt, India and the British dominions with a medium for their work which will unite them in closer harmony and increase the prestige of British urology. The interest of urologists in other countries is also invoked and a special appeal is made to our friends in America who speak our language and whose visits to our hospitals are always welcomed. There will be published in each number a list of the chief British urological clinics with their hours of working to aid visitors in finding what they want. There will be features in the journal to make it of interest not only to the general surgeon but also to the general practitioner. Another feature is a series of abstracts from urologic literature and an index to that literature. There is an influential editorial committee which comprises not only leading British urologists but well known physicians, gynecologists and pathologists. The editors are Mr. Frank Kidd and Mr. H. P. Winsbury White. The *British Journal of Urology* will be published quarterly. The annual subscription is $5 and the publishers are Constable & Co., 10 and 12 Orange Street, London, W. C. 2. Among the articles in the first issue are "Drainage of Bladder Through the Perineum After Suprapubic Prostatectomy," by Andrew Fullerton; "An Improved Method of Titrating Sugar in Blood and Urine," by P. J. Cammidge; "Urology in Relation to Gynecology," by Victor Bonney; "Routes of Absorption in Hydronephrosis," by D. M. Morison; "Pyelographic Diagnosis of Renal Tumor," by R. Gordon Craig and P. K. Lee-Brown, and "The Surgical Aspects of Polycystic Disease of the Kidney," by Maurice Meltzer of New York.

Fungus in Barley from America

Some cargoes of feeding barley from America have been found infested with a poisonous parasitic fungus. The poison was detected after the sickness of a large number of pigs, and the death of some, fed with it. The ministry of agriculture has kept a watch on incoming cargoes and is making certain experiments. Some anxiety has been felt as to the possibility of similar infestation in malting barley, and inquiry is being made by the ministry of health. It seems that the proportion of grain infested is small.

The British College of Obstetricians and Gynaecologists

With the object of encouraging the study and improving the practice of obstetrics and gynecology, a number of leading teachers have decided to form a British College of Obstetrics and Gynaecology. The college will establish a fellowship to which will be admitted physicians who have advanced the science and art of obstetrics and gynecology. The foundation fellowships will be filled only by those on the staff of teaching hospitals, and only those on the staff of nonteaching hospitals will be eligible for the foundation memberships. Among the objects of the college is the institution of a postgraduate diploma in obstetrics and gynecology. It is proposed to cooperate with existing licensing bodies in the examination of candidates for

qualifying diplomas. The college will also give advice in regard to technical training, institute lectures and demonstrations, and diffuse information by means of periodicals, books and other publications.

PARIS

(From Our Regular Correspondent)

March 13, 1929.

Observations on Undulant Fever

The prevalence of undulant fever in the region about Arles (Bouches-du-Rhône) afforded Dr. Imbert an opportunity to collect seventy cases observed, for the most part by himself, in the Hôpital d'Arles. His researches, essentially of a clinical character, bring out a number of points bearing on the etiology; for example, the relatively slight rôle of goat's milk, the more important part played by the sheep as compared with the goat, and the frequency (around 50 per cent) of contagion through contact with the herds, which explains the frequency (four cases) of the disease in butchers. Dr. Imbert emphasizes the clinical polymorphism of undulant fever, particularly in the pseudotuberculous and the articular types. He points out also several rare complications that he has observed: hepatic, glandular, and grave nervous types. The prognosis is relatively good, there having been only three deaths in his series of seventy cases. The diagnosis should be based on laboratory tests (Wright's serodiagnosis, hemoculture, and Burnet's intradermal test). As treatment, he recommends particularly autoserotherapy, supplemented by vaccinotherapy, convalescents' serum, and a sojourn in a high altitude.

Herpes Zoster and the Genital Function

Four years ago, Dr. Georges Petit called attention to the close relation between the appearance of herpes zoster and disorders of the genital function; more particularly, to restriction, temporary suppression or even abolition of that function. Taking up the subject again, in an article in the *Courrier médical*, he reports, in support of his thesis, new observations on herpes zoster existing simultaneously with temporary suppression of the genital function. The new observations concern resistant, tenacious or recidivating types of eruption. Furthermore, they found traces of arthritism and nervous disorders in all the patients. Petit reaches the conclusion that one may consider sexual abstinence, with the physiologic disturbance associated therewith, as one of the causes of herpes zoster. This theory is at variance with that which attributes herpes zoster to an inoculable filtrable virus, which exerts its action on the nerve cords of the paramedullary ganglions. The greatest obscurity reigns on this point, however, and the matters to which Petit calls attention, having been carefully observed, have a certain documentary interest.

Official Recommendation, by the Minister of Health, of Vaccination of the New-Born with the B C G Vaccine

By a recent bulletin, M. Loucheur, minister of labor, health, welfare and social insurance, has reminded the prefects of his previous instructions, issued in 1924 and in 1927, on the use of the B C G vaccine for the immunization of the new-born against tuberculosis. He calls their attention furthermore to the conclusions reached on the subject by the most eminent specialists of the world, who met in a conference summoned by the health section of the League of Nations. They recognized the preventive value of the vaccine, as well as its perfect harmlessness, both from the clinical and the experimental point of view. Likewise, the minister instructs the services under the control of the administration of hygiene to take the necessary steps to organize in a systematic manner the vaccination of the new-born with the B C G vaccine, leaving, of course, the initiative and full liberty as to its utilization, to the physicians and midwives. The vaccine, which must be administered orally within ten days after birth, is placed at the disposal of the services by the Institut Pasteur of Paris. For children that were not vaccinated under these conditions, and for adults that do not react to tuberculin, a special vaccine is furnished by the Institut Pasteur to medical specialists in tuberculosis, who are used to handling tuberculin. This decision has brought forth widely divergent comments in the medical journals, that being the natural result of the long discussions on the B C G vaccine before the Academy of Medicine, but public opinion is now prepared for the innovation, and willingly accepts this form of vaccination.

Local Proteinotherapy in the Treatment of Purulent Collections

Sezary and Dury secured excellent results, in the treatment of buboes of soft chancre, through simple injections of sterile peptonized water. This success induced them to extend local proteinotherapy to the treatment of other inflammatory lesions; particularly, acute bartholinitis, which often causes phlegmons of the labia majora, which must be incised at an early date if fistulization and the development of a chronic condition are to be avoided. In bartholinitis with copious drainage, they apply a daily injection, through the opening, of peptonized cream liquefied in a water-bath. In closed bartholinitis that is draining poorly, they make, every other day, an evacuatory puncture, followed by an injection of a 10 per cent aqueous peptone solution, the site of the injection always being on the external cutaneous surface of the labium. Immobilization is not necessary. A cure is effected, in most cases, within a few days. The authors obtained equally good results in the treatment of some other forms of adenitis, which they cure in a few days by punctures, followed by injection of a 10 per cent aqueous peptone solution in 2 cc. doses. The effect of this method appears to be due to the local shock that ensues. It constitutes a valuable mode of treatment in circumscribed suppurations, since it effects a rapid cure without surgical intervention.

Radiotherapy in Tumors of the Pituitary Body

M. Béclère recounts favorable results from radiotherapy in several cases of tumors of the hypophysis. From his personal statistics and from the statistics of his collaborators, it appears that, particularly in the ophthalmic types, radiotherapy effects an enlargement of the visual field, an increase of the visual acuity, the disappearance of ocular paralysis, the disappearance of signs of hypertension and mental disorders, and improvement in metabolism. In some cases, a disappearance of genital disorders was noted. In agreement with Cushing, the author emphasizes the importance of the diagnosis of tumors of the pituitary body proper and of tumors of the surrounding area, Rathke's pouch, for example. The former are quite radiosensitive; the latter are much less so. Béclère states that disorders of vision are the first to appear and serve to announce the presence of a tumor.

The Dangers of Overstudy in the Public Schools

Dr. Dufestel, head physician of the schools of the city of Paris and of the department of the Seine, recently made statements that attracted considerable attention, on the dangers of overstudy among young pupils, owing to the overloading of the curriculum. Statistics show that great harm to the general health often results from overstudy, at an age when neither bodily nor mental development has been completed. By multiplying the number of subjects in the curriculum, the number of teachers claiming a large part of a pupil's time has been increased. Nowadays, a child often spends more than eight hours at school, and, in addition, has home work to do, which further increases the duration of his intellectual toil. The eight-hour law, which legislation has imposed on adult workmen, should be, for even greater reasons, applied to the child.

Dufestel thinks that four hours a day is a sufficiently long study period, and that the rest of the time at school should be devoted to games, physical training and sports. Medical examination of those children who are subjected to overstudy brings out, every year, a considerable proportion of weakly subjects, many being anemic with a poorly developed chest, while from 30 to 40 per cent may be regarded as being in a pretuberculous state. These facts are known, and an endeavor is made to remedy the evil by creating open-air schools. These have given excellent results. In addition, numerous philanthropic societies organize vacation outings at the seashore, in summer, extending over from three to four weeks. The children return considerably improved in health, and showing good gains in height and weight. But these results are not maintained for more than two or three months. A better solution, according to Dr. Dufestel, would be to reduce the number of class hours; that is to say, the number of hours spent in the class rooms, by ceasing to overload the curriculum and by giving fuller recognition to the logical law of pedagogy that the attendance at school has not as its basis the idea of teaching a child everything but to develop his brain, through appropriate training, to a point where he can learn readily when he quits the public school and begins to acquire the special knowledge needed for the career to which he plans to devote himself.

The Mortality of the "Immortals"

The members of the various academies composing the Institut de France have been honored, in ordinary speech, with the metaphoric appellation "the immortals," which dates from the "romantic period" in which the institute was created, and which is still employed. Prof. Charles Richet, who is 86 years of age, has presented to the Academy of Sciences, of which he is the dean, a communication on the "age of the immortals." He has taken the trouble to figure out whether the title of academician constitutes also a title to longevity. The average age at which savants are elected to membership in the institute is 50 and, of late, has approached 55. According to the mortuary tables, the average expectancy of persons who have passed the fiftieth year is twenty-one years. Seventy-one is the average age of the academicians. The institute is comprised, for the most part, of elderly men. They are men of science who have finished their careers, and who are now living quiet lives under peaceful conditions.

ITALY

(From Our Regular Correspondent)

March 15, 1929.

Prophylaxis of Wetnursing

The governor of Rome has published new regulations with a view to improving the prophylaxis of wetnursing, which has been in vogue in the capital since 1903. Women who desire to perform the duties of a wetnurse must submit to an examination by the health officer, which must show that they are free from infectious and transmissible diseases—particularly syphilis. The certificates issued by the communal physician will have a photograph of the holder attached. Persons employing a wetnurse may ascertain her state of health and the nature of her milk secretion by applying to the municipal bureau of health.

University Problems in Italy

In connection with the installation of the new superior council on public instruction, Minister Belluzzo delivered an address in which he discussed the question of the organization and functioning of the universities. Much has been spoken and written on this subject, in recent years. Some hold that Italy has too many universities, and that it is advisable to reduce the number, but the minister expressed himself as opposed to the suppression of the existing university seats, all of which were founded when the population of the realm was much less than now, and when the fields of science (technology in particular) were more restricted. It would appear to him more feasible to diminish in some of the universities the number of faculties, and, above all, to concentrate certain subjects that, today, are broken up, owing to the rather too large number of professorial chairs. The study of the question of reorganization of universities will be taken up by the new superior council.

Another problem that the head of the government desires shall be given careful consideration and brought to a final solution is that concerning the university scientific laboratories, which should be equipped with more modern apparatus and have more adequate facilities, in order that they may be available for all the students pursuing subjects of a scientific and professional character, such as medicine and the natural sciences, agriculture, engineering and chemistry.

The Congress of Otorhinolaryngology

The Congress of Otorhinolaryngology was held at Catania, under the chairmanship of Professor Citelli. The official topic of the congress was, "Tonsillitis in Relation to Kidney Disorders," the chief speakers being Professor Brunetti of Venice and Professor Malan of Turin.

Professor Brunetti discussed the behavior of the tonsils in a series of cases of tonsillitis and nephritis, on the basis of the recent views of Helman, according to which the follicles of the tonsils are the centers of reaction to pathogenic endogenous and exogenous stimuli. The speaker has been unable to demonstrate the existence of specific histologic changes in the tonsillar tissue. He also records that there is no parallelism between such throat lesions and renal reactions, nor between the anatomic conditions of these organs. Nephritic symptoms appear ordinarily at the peak of the angina. As for the treatment, opinions vary. Some authors (Fein and others) regard the tonsillar lesion and the renal lesion as two distinct stages of the same hematogenic infection and consider all tonsillar treatment useless. Most authors agree, however, that it is advisable to eliminate the primary focus in the most rapid and complete manner, and to perform total tonsillectomy, especially in acute nephritis.

Professor Malan dealt with the etiology and pathogenesis of tonsillitis and associated kidney disorders. It appears established that in the acute types of tonsillitis the streptococcus predominates; that it is very frequent in chronic tonsillitis and constantly present in tonsillitis of subjects with acute glomerulonephritis. As regards the pathogenesis, the speaker is of the opinion that certain acute types of tonsillitis are manifestations of a local disease, while the general infection is secondary. In other cases, however, the general infection precedes the tonsillar localization. Concerning the relations between the tonsillar and the renal lesions, it is true that in certain general infections the tonsils and the kidneys become involved simultaneously, but in most cases the infective process is first localized in the tonsils, and, from there, enters the lymph channels or blood stream, giving rise to secondary localizations, chiefly renal. In acute tonsillitis there are embolic-infective renal types, while in chronic tonsillitis the glomerular diffuse type is more common.

From the statistics of the speaker, it appears that, of forty-seven cases of acute nephritis, 44.3 per cent were associated with tonsillar involvement, which in 14 per cent of the cases could be regarded as the cause of the kidney disease. Of forty-six cases of chronic nephritis, pharyngeal origin was probable in 83 per cent. Of 2,246 persons operated on for hypertrophy of the tonsils, the speaker encountered renal involvement in only 0.74 per cent.

Many further communications were presented on the subject under consideration, among which may be mentioned that of Professor Calamida of Milan on tonsillectomy in kidney disease associated with tonsillar lesions. On the basis of a large series of personal cases, Professor Calamida concludes that tonsillectomy is useful in the types in which renal sclerosis has not yet been recognized, but that it is less advisable in the chronic types. Professor Bilancioni of Pisa did not agree with the last

mentioned conclusion. Torrigiani of Florence regards tonsillectomy as efficacious only in the cases in which, between one attack of tonsillitis and the next, the kidney clears up. Citelli considers it out of place to resort always to tonsillectomy—especially in children, in which the intervention is not always devoid of danger; often an ample tonsillotomy has a much more favorable action.

Professor Ferreri of Rome presented a communication on the pathogenesis of malignant tumors of the ear.

Red Cross Day

The ministerial council has given its approval to the draft of a law that would establish a Red Cross day. The purpose of the projected legislation is to assure to the Red Cross society the funds needed for its functioning and development, without imposing any new burden on the general budget. June 15 of each year (anniversary of the foundation of the Red Cross) will be set apart for the collection of money and gifts, and likewise for the enrolment of new members. On that day, all transportation companies and public shows and plays will be required to add to the price of tickets an additional 5 per cent in favor of the Red Cross.

Prevention of Abusive Practices in Pharmacy

The general management of the public health service has adopted regulations for the suppression of abusive practices that have arisen in the sanitary professions and, in particular, in the field of pharmacy. A pharmacy may be operated only by a graduate pharmacist or by some one, who, in the possession of a regular diploma, is authorized to take his place. No other person shall be permitted to participate in the preparation of medicaments and their sale to the public. Pharmacists are prohibited from accepting from clients used containers, for the reason that such containers have frequently been in contact with contagious diseases and may become the means of transmitting an infection.

The Raffaello Nasini Foundation

In celebration of the fiftieth anniversary of the doctor's examination of Prof. Raffaello Nasini of the University of Pisa, funds were collected for the creation of a suitable foundation. Two periodical prizes of 5,000 lire each will be awarded, one in hydrology and one in chemistry.

Leave of Absence for Study Purposes

The ministry of the interior has sent a bulletin to the prefects of the realm which takes up the question of granting a special leave of absence (in addition to the regular yearly vacation) to health officers, for purposes of study. Such concessions have been left heretofore to the discretion of the communes. In order that health officers may keep abreast of the progress of medicine, the ministry has now decreed that, whenever the conditions of the service permit it, special leaves of absence shall be granted health officers, with full salary, if they desire to take postgraduate courses at a university or a scientific institute.

Death of Prof. Enrico Morselli

Prof. Enrico Morselli, director of the psychiatric clinic of the University of Genoa, is dead. He graduated in medicine at the age of 22 from the University of Modena, in the town where he was born in 1859. He was an assistant professor at the medical clinic of Florence; then he was appointed director of the insane asylum at Macerata, which he transformed into one of the foremost institutions of its kind in Italy. In 1880 he was appointed professor of psychiatry at the University of Turin and in 1889 he was assigned to the same position at the University of Genoa. There he substantially modified the teaching of mental diseases and allowed the students to come into contact with the patients in the hospital halls and rooms, this being the first time that this was done in Italy. His scientific works concern the medical, biologic, physiologic and philosophic sciences. In neuropathology he may be credited with the discovery of the correlations between the changes in the cervical sympathetic nerves and the pupillary modifications which accompany them; he presented the theory of the cortical origin of epilepsy, and he improved Erb's esthesiometer for the examination of dermo-electric sensibility. He introduced the use of hydro-electric baths into Italy and the use of paraldehyde in therapeutics. Morselli wrote a treatise in two volumes on mental diseases, a book on general anthropology, and several volumes on the criticism and reform of anthropologic methods, on magnetism, euthanasia, psychoanalysis, and traumatic neurosis. Together with his pupil Tanzi, who was director of the psychiatric clinic of Florence, he established the *Rivista di patologia nervosa e mentale.* He was director of the journal *Quaderni di psichiatria,* and he collaborated on many scientific journals in his speciality.

Assistance for Persons with Disease Resulting from Industry

The council of state ministers has approved the foundation of an institution for the assistance of adults who become ill as a result of an accident sustained at work. This institution will have a judicial unit in Milan. Its scope not only will include prosthetic and orthopedic assistance for those who are accidentally injured while working or who contract occupational diseases that are permanently injurious, but will furnish a home and treatment for them. Necessary finances for the up-keep of the new institution will be provided mostly by the insurance companies which insure against injuries and fatalities in industry and agriculture.

BERLIN

(From Our Regular Correspondent)

March 16, 1929.

Organization of Dental Care in the Municipality of Berlin

DENTAL CARE OF SCHOOL CHILDREN

In the cities, communes and other areas that, in 1920, were welded together to form Greater Berlin, the dental care of school children had not been organized in a uniform manner. In many districts, there was no organized dental care of school children, and extensive administrative and technical measures were needed before much progress in the organization of dental care could be made. In recent years, several school dental clinics have been created, and there are now twenty-two school dental clinics in Berlin. These vary in size according to the location and size of the district that they serve. Preparatory steps have been taken to complete the organization of a uniform system of dental care for school children in Greater Berlin according to the following principles: The Berlin municipal dental care of school children extends to all persons attending the Berlin municipal *volksschulen* (primary and grammar grades); middle, or secondary, schools, and special schools; to all persons attending higher institutions of learning (as defined in detail), and to persons attending nonmunicipal schools that, by special agreement, have been accorded such permission. The school dental clinics likewise give dental care to young children that have been referred to them by the municipal care-taking centers for young children, particularly of preschool age.

The application of school dental care takes place in two different ways: (1) the examination and treatment of children of a given age (taking all children born in a given year), and (2) the treatment of individual children who, for special reasons, appear at the policlinic consultation hour of a school dental clinic. Systematic sanitation begins usually with children in the second school year. The children are then to be examined every two years, and are to receive treatment if necessary. Systematic sanitation takes care of one class and then another. In con-

nection with the treatment of school children belonging to the first class in school, all other children in the school who are to be dismissed during that school year should be examined and treated, unless they have already been treated that same year in another class. The children are brought for systematic sanitation to the school dental clinic by one of their teachers. Most of the larger school dental clinics have large waiting rooms with plenty of seats, so that groups of children may be kept for some time without any difficulty.

In the school dental clinics, examination of the children must always be made in the dental chair. Diseases or malformations of the mouth and jaws are treated first; next come the permanent teeth. Teeth may not be removed unless the indications are well established. Then come diseased milk teeth; but these are not treated unless they can be saved without special attention, or unless the teeth in question are needed for chewing or for the preservation or further development of the jaw. When needed, a more intensive cleaning of the teeth should be carried out.

The policlinic treatment extends to the same categories of school children as the systematic sanitation. It is intended to supplement the systematic sanitation and, later on, will be restricted, as far as possible, in favor of the latter. Policlinic treatment is given mainly to children who are suffering from some acute disorder in the region of the mouth or jaws, or who are about to be sent to some resort for the benefit of their health.

In connection with systematic sanitation and with policlinic treatment, great importance should be attached to the prevention of pain. The extraction of permanent teeth without local anesthesia, unless special reasons constitute a contraindication, is inadmissible. For the extraction of milk teeth local anesthesia is not usually required, but whether or not pain-preventing local measures should be employed will depend on the individual case. If, in exceptional cases, general anesthesia is regarded as necessary, it may be employed only on the approval and the responsibility of the director of the school dental clinic and following the written consent of the parents.

School dentists will note the need of any orthodontic treatment, and when indicated children will be referred to special orthodontic departments that are to be created, if the treatment cannot be carried out in the school dental clinic.

Considerable attention will be paid to cooperation between the school dental clinic and other health and welfare centers. School dentists will enlighten the people, and particularly school children, in regard to the proper care of the teeth. It is intended that every class that comes up for systematic sanitation shall be given a short talk on the care of the teeth, which will be combined with suitable demonstrations with the aid of illustrations, charts and films.

All dental treatment of school children requires the consent of the parents or guardian. On admission of the child to the school, their consent to dental treatment in the school clinic will be secured for the whole school period.

Dental care of school children will be mainly in the hands of full-time school dentists serving in an official capacity. Part-time dentists may be called in to assist if they are needed. For each of the present Berlin administrative districts (*bezirksämter*) there is to be at least one school dental clinic. The creation of a number of new clinics is planned. If the number of school children in a *bezirksamt*, or district, is much in excess of 30,000, the creation of a second school clinic for the district is to be considered. School children in the more remote parts of the outlying districts may, in certain instances, be given ordinary dental care in a specially equipped dental autocar. The policlinic treatment of these children will, however, be given in the regular school dental clinic.

Every school dental clinic shall have a school dentist as director. Every school dentist shall have, in the future (at least, during the period of systematic sanitation), a special aid—usually a graduate woman nurse.

The final approval of sanitation plans, which are proposed by the directing school dentists, and the supervision of the execution shall devolve on the district public health service (city physicians), acting in harmony with the school authorities. The question has not yet been settled as to the number of school children that should commonly be assigned to a school dentist. The financial aspects of the problem are of course of paramount importance. However, a considerable increase in the number of school dentists seems fairly well assured.

DENTAL CARE IN THE WELFARE BUREAUS

The dental care of the population of Berlin (that is, of those who receive aid or are barely able to exist on their rents), so far as it is in the hands of the bureaus of public welfare, is accomplished in various ways. Most of the district bureaus (*bezirksämter*) have had for many years a number of dentists on their lists who have expressed a willingness to aid in the dental treatment of persons who receive aid and of those with assured but very limited incomes. In all the districts of Old Berlin, and in many outlying districts, the system in vogue is the so-called *Wohlfahrtsarzt-distriktsystem*. After the manner of the division of the medical districts (the welfare physician districts), welfare dental districts have been formed in some places, whereby the relations between the city physician, the welfare physician, the welfare dentist and the chairman of the welfare commission have been amicable. In some districts, especially those in which the cost of dental care had increased greatly, the plan has been adopted of combining the welfare dental care with the dental care of school children, and dentists have been employed for this double duty.

DENTAL CARE IN HOSPITALS AND CARE-TAKING INSTITUTIONS

Dental care in the hospitals and care-taking institutions of Berlin is in the hands of dentists who are engaged by the magistrate or by the individual districts. Of the general hospitals, only the Rudolf-Virchow-Krankenhaus has a special dental department, with a small number of beds. Dental care here is in the hands of a full-time dentist. Plans are being made to place the dental work of other municipal institutions likewise in charge of a full-time dentist. For the most part, however, part-time dentists are still employed. The reorganization of the dental services in the hospitals and care-taking institutions will likely be taken up in the near future.

AUSTRALIA

(From Our Regular Correspondent)

Feb. 26, 1929.

Low Infant Mortality Rate in New Zealand

The dominion has just announced an even further reduction in the already phenomenally low infant mortality rate. Two other features of the year's statistics are a slight rise in the death rate, and a fairly substantial fall in the birth rate. The urban areas forming the basis of these statistics include more than 50 per cent of the population of New Zealand, and therefore they give a reasonably accurate indication of the trend of the various rates for the dominion as a whole. It is worthy of note, however, that the dominion rates are invariably higher for births, and lower for death and infant mortality, than those recorded for the aggregate of the urban areas.

The Decline in Births

The comparatively heavy decline in the urban birth rate for 1928 indicates that the birth rate for the whole country will establish an unenviable dominion record. The dominion figures for the first nine months of 1928 strengthen the prophecy. A closer analysis of the situation shows that from 1924 to 1926, inclusive, Auckland recorded the highest birth rate of the four

centers, but pride of place has been ceded to Wellington for the last two years. Wellington was the only center to show an increased birth rate last year—from 18.55 in 1927 to 18.98 in 1928. Dunedin showing the lowest figure for 1928 and Auckland the second lowest, both declined by 1.15, and Christchurch fell 0.12 per thousand of population.

The aggregate death rate for the urban areas in 1928 shows an increase of only 0.07 per thousand of population. No great variation in the dominion rate is expected. While there were no epidemics during the past year, scarlet fever, diphtheria, and influenza took a greater toll of life than in the previous year. Other diseases showing notable increases were tuberculosis, cancer, heart disease and pneumonia. Deaths from motor and railway accidents increased, but those from measles, diseases of the nervous system, bronchitis, senility, and diseases of early infancy decreased.

School of Dietetics for Victorian Hospitals

Acting on the suggestion of the Victorian charities board, the management of the Alfred Hospital, Melbourne, has decided to establish a dietetic school at the hospital this year. Applications will be received from trained dietitians in the United States and Canada to take charge of the school for three years. The dietitian will be responsible for the selection and preparation of all meals in the institution for the patients and the staff. Three selected graduates of the Emily McPherson college of domestic economy in Melbourne will probably work under the dietitian. It is expected that dietitians will be trained for other institutions. Full details of the scheme are not being worked out until after the appointee arrives in Melbourne. It would seem that the scheme is the outcome of the recent visit of the secretary of the charities board to America and Britain.

Influenza Epidemic in the Pacific

An outbreak of pneumonic influenza occurred on the island of Rotuma, 500 miles north of Fiji, early in January. There was only one white physician to care for the 2,300 inhabitants. Only the resident commissioner, two other Europeans, and about fifty natives escaped the disease. The deaths numbered thirty-one up to January 23, at which time the epidemic was reported to be abating. The first case occurred, December 4, after the arrival of the interisland steamer *Makatea*.

New Tuberculosis Settlement Near Sydney

At Picton Lakes, a few miles from the capital, a tuberculosis settlement is being founded by public subscription, mainly from the industrial suburbs. There are eleven homes for married patients; two hostels for single patients; an administrative building containing the hospital, matron's quarters and general office; an "industrial hall" where the patients are to carry on light work, such as with raffia, and bookbinding; and a school children's chalet. Each of the hostels will accommodate six persons. They are simply but not bleakly furnished; and they will be very easily kept clean. The committee has paid special attention to the ventilation. Between the walls and ceiling of each room runs a wide strip of gauze, protected on the outside from the weather; so that even on the stormiest nights the patients will be able to enjoy fresh air without being blown out of their beds by the draft. Both hostels have a neat sitting room, with a fireplace and many windows; a kitchen and pantry; and a cool-room under the tank. These tanks will provide ample reservoirs from which the householders may draw, not only for indoor use but also for the upkeep of the gardens which are to blossom out of the present wilderness of sand and dry grass. The supply to fill the tanks will be drawn from the Bargo River, a mile or two to the east. In a few days Boy Scouts will begin the labor of laying pipes, and representatives of the master plumbers are to give voluntary labor in superintending this ambitious "good turn." The whole settlement is lighted by electric light.

Marriages

BEN H. SMITH, Huntington Park, Calif., to Mrs. Cora L. Burford of Harrisburg, Pa., at Riverside, Calif., March 31.

FLOYD A. BIRD to Mrs. La Donna Le Leber, both of Olympia, Wash., recently.

J. FRANK FOLK, Warrenton, Va., to Miss Rose H. Hall of Richmond, March 28.

HIRAM J. SMITH to Miss Agnes Grant Prentice, both of Chicago, April 8.

Deaths

John Dikeman Rushmore, Brooklyn; Medical Department of Columbia College, New York, 1870; emeritus professor of clinical and operative surgery, and formerly dean at Long Island College Hospital; member of the American Surgical Association, the American Ophthalmological Society and the American Otological Society; on the staffs of the Kings County Hospital, St. Peter's Hospital, Long Island College Hospital, Swedish Hospital and Lutheran Hospital, and formerly on the staffs of the Brooklyn Hospital and the Brooklyn Eye and Ear Hospital; aged 83; died, March 23, of chronic myocarditis and nephritis.

Joseph William Rowntree ⊕ Waterloo, Iowa; Trinity Medical College, Toronto, Ont., Canada, 1903; member of the American College of Physicians and the Radiological Society of North America; lecturer in roentgenology, Rush Medical College, Chicago, 1915-1917, and roentgenologist to the Presbyterian Hospital, Chicago; formerly a member of the Mayo Clinic, Rochester, Minn.; roentgenologist and pathologist to the Presbyterian and St. Francis hospitals, Waterloo; aged 49; died, April 3, at Rochester, Minn., of heart disease following influenza and diabetes.

Carroll Orwig Getty, Chicago; Rush Medical College, Chicago, 1914; formerly associate in medicine at his alma mater, and assistant in physiology, University of Michigan Medical School, Ann Arbor; member of the Illinois State Medical Society; on the staffs of the John B. Murphy Hospital and the Ravenswood Hospital; aged 39; died, April 4, at the Augustana Hospital, of gangrenous appendicitis and embolism.

Willard Brazzle Ashby, Oakland City, Ind.; Kentucky University Medical Department, Louisville, 1905; formerly clinical assistant in urology, University of Louisville (Ky.) School of Medicine; served during the World War; aged 50; formerly on the staff of the Methodist Episcopal Hospital, Princeton, where he died, March 9, of cerebral hemorrhage.

Mozart William Rainold ⊕ Gulfport, Miss.; University of the South Medical Department, Sewanee, 1896; member of the Radiological Society of North America; veteran of the Spanish-American War; roentgenologist to the U. S. Veterans' Bureau Hospital; aged 58; died, February 26, at Pass Christian, of chronic myocarditis and acute nephritis.

Joseph Alfred Guthrie ⊕ Surg., Lieut. Commander, U. S. Navy, retired, Portsmouth, Va.; University of Virginia Department of Medicine, Charlottesville, 1890; was appointed surgeon, with the rank of lieutenant commander, in December, 1904, and was retired in March, 1906, for incapacity incident to service; aged 63; died, March 9, at Norfolk.

Louis Gross ⊕ San Francisco; Cooper Medical College, San Francisco, 1897; member of the American Urological Association; formerly clinical lecturer on genito-urinary diseases, College of Physicians and Surgeons, San Francisco; aged 53; died, March 22, at the Dante Sanatorium, of septicemia, following furunculosis.

Charles Daniel McCarthy, Jr. ⊕ Malden, Mass.; Tufts College Medical School, Boston, 1915; served during the World War; at one time chairman of the board of health; formerly on the staffs of the Malden Contagious Hospital and the Malden Hospital; aged 38; died, February 18, of pneumonia, following nephritis.

Thomas Clay Hollister ⊕ Idaho Falls, Idaho; College of Physicians and Surgeons, Chicago, 1896; past president of the Idaho Falls Medical Society; on the staffs of the Idaho Falls Latter-Day Saints' Hospital and the Spencer Hospital; aged 63; died, January 27, following an operation for acute appendicitis.

Dudley Carleton, Springfield, Mass.; Harvard University Medical School, Boston, 1895; member of the Massachusetts

Medical Society, and the New England Surgical Society; on the staff and formerly president of the staff of the Springfield Hospital; aged 59; died, March 13, of heart disease.

Thomas C. Campbell, Klamath Falls, Ore.; Trinity Medical College, Toronto, Ont., Canada, 1902; member of the Oregon State Medical Society; formerly on the staff of the Klamath General Hospital; aged 48; died, February 19, at the Klamath Valley Hospital, of bronchopneumonia.

Daniel Mortimer Ottis ⊕ Springfield, Ill.; Rush Medical College, Chicago, 1895; past president of the Sangamon County Medical Society; served during the World War; on the staff of the Springfield Hospital; aged 58; died, March 16, at St. John's Hospital, of cerebral hemorrhage.

George Herbert Lawrence ⊕ Stevens Point, Wis.; College of Physicians and Surgeons, Chicago, 1896; past president and secretary of the Portage County Medical Society; served during the World War; on the staff of St. Michael's Hospital; aged 63; died, March 16, of pneumonia.

Horace Tapley Price ⊕ Tulsa, Okla.; St. Louis University School of Medicine, 1912; past president and secretary of the Tulsa County Medical Society; member of the board of directors of the National Tuberculosis Association; aged 53; died, March 18, of cerebral hemorrhage.

Arthur Loewy ⊕ Oak Park, Ill.; College of Physicians and Surgeons, Chicago, 1889; formerly assistant clinical professor of medicine, Bennett Medical College, Chicago; president of the staff of the Oak Park Hospital; aged 61; died, March 25, of pleurisy and myocarditis.

Edward Ford Gavin ⊕ Waukegan, Ill.; Rush Medical College, Chicago, 1890; member of the American Academy of Ophthalmology and Oto-Laryngology; on the staff of the Victory Memorial Hospital; aged 65; died suddenly, March 23, of heart disease.

John Knox Morris ⊕ Modesto, Calif.; Hospital College of Medicine, Louisville, 1891; Jefferson Medical College of Philadelphia, 1894; on the staff of the Robertson Hospital; aged 67; died suddenly, March 11, of heart disease, following arthritis and sinusitis.

Clarence Leslie Frey ⊕ Scranton, Pa.; Jefferson Medical College of Philadelphia, 1872; member of the American Academy of Ophthalmology and Oto-Laryngology; on the staff of the Scranton State Hospital; aged 77; died, March 13, of myocarditis.

I. Newton Charles McKinney, Camargo, Ill.; University of Illinois College of Medicine, Chicago, 1902; member of the Illinois State Medical Society; aged 57; died, February 14, at the Sarah A. Jarman Hospital, Tuscola, of carcinoma of the liver.

Rufus Jay Crabill, Allen, Okla.; Fort Worth (Texas) School of Medicine, Medical Department of Fort Worth University, 1900; member of the Oklahoma State Medical Association; aged 67; died, February 23, of injuries received in a fall.

John Philip Pfeifer ⊕ Chicago; Bennett College of Eclectic Medicine and Surgery, Chicago, 1888; Rush Medical College, Chicago, 1893; on the staff of St. Mary of Nazareth Hospital; aged 71; died, April 6, of myocarditis and chronic nephritis.

James H. Robnett ⊕ Albany, Ore.; Willamette University Medical Department, Salem, 1900; formerly mayor and member of the school board; aged 57; on the staff of the Albany General Hospital, where he died, March 13, of mitral insufficiency.

Allen Bertram Gilliland, Philadelphia; University of Pennsylvania School of Medicine, Philadelphia, 1890; formerly on the staff of the Friends Hospital; aged 64; died, March 27, in a hospital at San Diego, Calif., of cerebral hemorrhage.

Jay Donald Iams ⊕ Pittsburgh; Western Pennsylvania Medical College, Pittsburgh, 1904; member of the Central States Pediatric Society; aged 49; on the staff of the Mercy Hospital, where he died in March, of pneumonia.

Alois Kessler ⊕ Carroll, Iowa; Hospital College of Medicine, Louisville, 1888; past president of the Carroll County Medical Society; formerly mayor of Carroll and county coroner; aged 70; died, March 19, of heart disease.

W. Bruce Hunter, Danforth, Maine; McGill University Faculty of Medicine, Montreal, Que., Canada, 1908; member of the Maine Medical Association; aged 50; died, February 3, at Vanceboro, of heart disease and nephritis.

Gerhard Taphorn ⊕ Alton, Ill.; St. Louis Medical College, 1890; on the staffs of St. Anthony's Infirmary and St. Joseph's Hospital; aged 64; died, March 7, in a hospital in Washington, D. C., of cerebral hemorrhage.

Harold Alexander Hogue, Springfield, Ohio; Johns Hopkins University School of Medicine, Baltimore, 1928; aged 26; intern at the Boston (Mass.) City Hospital, where he died, January 22, of pneumonia.

Andrew J. Lyerly ⊕ Jonesboro, Ill.; Missouri Medical College, St. Louis, 1890; past president of the Union County Medical Society; formerly county coroner; aged 63; died in March, of pneumonia.

Robert Evan Vickers, Huntington, W. Va.; Bellevue Hospital Medical College, New York, 1888; member of the West Virginia State Medical Association; aged 70; died, February 27, of pernicious anemia.

Philip Fanning Abbott, Oakland, Calif.; Cooper Medical College, San Francisco, 1901; member of the California Medical Association; aged 54; died, January 27, of chronic nephritis and myocarditis.

Frances Louise Newton ⊕ Woodland, Calif.; Woman's Medical College of Pennsylvania, Philadelphia, 1895; aged 61; died, January 18, at the Sutter Hospital, Sacramento, of appendicitis.

Alfred Herman Johansson, Magnetic Springs, Ohio; Medico-Chirurgical College of Philadelphia, 1902; served during the World War; aged 59; died, March 2, of cerebral hemorrhage.

Joseph Smith Horner, Hot Springs National Park, Ark.; University of Maryland School of Medicine, Baltimore, 1883; aged 70; died February 8, at Bloomfield, Mo., of cerebral hemorrhage.

Emmett Ady, West Liberty, Iowa; State University of Iowa College of Medicine, Iowa City, 1882; aged 73; died, March 30, at the Mercy Hospital, Iowa City, following an operation.

Joel Dudley Hendrickson, Portsmouth, Ohio; Kentucky School of Medicine, Louisville, 1894; formerly county coroner; aged 63; died suddenly, March 11, at Martinsville, of heart disease.

John Cornelius Quick, Muncie, Ind.; Physio-Medical College of Indiana, 1886; formerly mayor and city health commissioner; aged 66; died, March 15, of cerebral hemorrhage.

Charles Alva Bingham, Cleveland; Cleveland College of Physicians and Surgeons, Medical Department Ohio Wesleyan University, 1899; aged 60; died, February 27, of hemiplegia.

John Whittaker Cannan, Florida, Ohio; Michigan College of Medicine and Surgery, 1898; member of the Ohio State Medical Association; aged 57; died, March 13, of nephritis.

Fred Dennis Bird, Port Washington, Ohio; Starling Medical College, 1903; member of the Ohio State Medical Association; aged 51; died, March 25, of heart disease.

John T. Fleming, Perryville, Ark, (licensed, Arkansas, 1903); member of the Arkansas Medical Society; aged 62; died, February 27, of pneumonia, following influenza.

Louis Arthur Dermody, Omaha; Creighton University School of Medicine, Omaha, 1910; aged 42; died, March 21, at St. Catherine's Hospital, of lobar pneumonia.

Daniel Oliver Saunders, Bridgetown, N. S.; Harvard University Medical School, Boston, 1869; aged 87; died, January 24, at West Clarence, of influenza.

Wilson Jones Ferguson ⊕ Sedalia, Mo.; Kansas City Medical College, 1887; served during the World War; aged 63; died, March 18, of cerebral hemorrhage.

Benjamin Franklin Camp, White Springs, Fla.; College of Physicians and Surgeons, Baltimore, 1879; aged 76; died, February 10, of cerebral hemorrhage.

Joseph Nathan Freilich, Zanesville, Ohio; Medical College of Ohio, Cincinnati, 1906; aged 45; died, February 14, in a hospital at Columbus, of tuberculosis.

James Monroe, Buhl, Idaho; Rush Medical College, Chicago, 1892; aged 72; died, Nov. 3, 1928, at Long Beach, Calif., of rupture of the gallbladder.

Joseph McMorries, Fort Worth, Texas; University of Louisville (Ky.) School of Medicine, 1873; aged 79; died, February 24, of bronchopneumonia.

Mary Ellen Gillette Smith, Denver; Eclectic Medical College of the City of New York, 1890; aged 72; died, Februray 7, of carcinoma of the liver.

James H. Rogers, Sharps Chapel, Tenn. (licensed, Tennessee, 1889); Civil War veteran; aged 83; died, recently of paralysis agitans and influenza.

Robert L. Meek, Ashdown, Ark.; Bell Medical College, Dallas, Texas, 1904; aged 65; died suddenly, February 9, of myocarditis.

Correspondence

ENDOCRINE PRODUCTS IN STERILITY

To the Editor:—In THE JOURNAL, March 30, page 1141, "M.D., Ohio" inquires about the use of glandular therapy to stimulate ovarian (i. e., oogenetic) function in order that pregnancy may occur. Your reply says, in substance, that endocrine therapy in such cases has proved unsatisfactory. This statement is so much at variance with the views, based on a considerable experience, of our clinical group, that I should like the opportunity of placing on record a different opinion.

We agree that the endocrine therapy of sterility, as commonly practiced, is worthless. It is far from worthless, however, if three conditions are properly fulfilled. These conditions are as follows:

1. There must be a definite insufficiency on the part of one of the endocrine glands, so that the exhibition of a single glandular product fills a specific need and is true replacement therapy.

2. The necessary product must be given in adequate dosage and in potent form. Of anterior pituitary, which is the preparation most commonly required, our usual oral dose is between 30 and 90 grains (2 and 6 Gm.) a day; the ordinary small doses are inert. The administration of thyroid in ordinary dosage often gives brilliant results in suitable cases. Ovarian therapy is least often indicated; we agree to the difficulty of obtaining suitable preparations and the relative worthlessness of oral administration, but feel that injections of some active preparations are of real value in cases in which a definite ovarian failure has been demonstrated.

3. A comprehensive investigation of both husband and wife must eliminate all nonendocrine factors, local and constitutional, which might contribute to the causation of sterility. In the case cited by your correspondent it is possible, for example, that the wife suffered tubal injury as a result of the previous miscarriage. Furthermore, a pregnancy occurring five years ago and terminating in miscarriage by no means assures the present fertility of the male.

SAMUEL R. MEAKER, M.D., Boston.

"SPONTANEOUS EVACUATION OF EXTRADURAL ABSCESS"

To the Editor:—In the report of the case of "Spontaneous Evacuation of an Extradural Abscess of Otitic Origin with Recovery" (after incision) by Drs. Halpern and Stulik in THE JOURNAL, March 30, the case was well worked up but apparently the man qualified to diagnose and treat such a case was not consulted. Just why an ear case should be under the care of a contagious disease man, a pediatrician and a general surgeon does not appear from the case report. That such a thing could happen in Cook County Hospital, where there are attending otologists with wide experience in the intracranial complications of ear diseases, shows that some one fell down badly.

G. W. BOOT, M.D., Evanston, Ill.

PEMPHIGUS OF THE EYE

To the Editor:—Numerous cases have been recorded as pemphigus of the eyes, through confusion and erroneous nomenclature. It has been confused with xerosis and essential shrinkage of the conjunctiva. "Essential shrinkage of the conjunctiva" is the title applied by Kries (1878) of Von Graefe's clinic to a pemphigus of the eyes with secondary scarring and degeneration of the conjunctiva. Von Graefe (1879) propounded the identity of pemphigus and essential shrinkage, while Becker (1879) admitted only the identity of essential shrinkage and syndesmitis degenerativa, the latter being a term used by Stellwag (1870) to describe a chronic degenerative conjunctivitis.

Xerosis is a term that is applied to a symptom—dryness of the conjunctiva. Parsons states that it occurs in two groups of cases: (1) associated with general disease, and (2) as a sequel of local ocular conditions. The first type occurs in marasmic children associated with keratomalacia and necrosis of the cornea. It also occurs in adults suffering from malnutrition, the process beginning with triangular patches covered by a substance resembling foam which is not wetted by tears. The second type occurs as a cicatricial degeneration of the conjunctiva following trachoma, burns, diphtheria, after exposure due to ectropion or lagophthalmos, and after pemphigus. It is apparent therefore, that a diagnosis of pemphigus is not warranted in the absence of a definite history or the actual presence of bullae. Pemphigus frequently first appears on the mucous membranes.

W. H. GUY, M.D., Pittsburgh.

LONDON CHILD GUIDANCE CLINIC

To the Editor.—In THE JOURNAL, February 16, in the London letter, is a statement with the subheading "Psychoanalysis for Children" which refers to a child guidance clinic about to be established in London which the Commonwealth Fund is supporting. This statement is a duplicate of an article which appeared in an English newspaper and is entirely erroneous in its statement that children are to be psychoanalyzed in this clinic.

The child guidance clinic in London will be conducted along precisely the same lines as similar activities financed by the Commonwealth Fund in this country. Psychoanalysis will have no part in it.

BARRY C. SMITH, New York.
Director, the Commonwealth Fund.

SPIRITISM AND GOAT LYMPH

To the Editor:—The letter from the Paris correspondent (THE JOURNAL, March 30) states that Prof. Charles Richet gave testimony in Paris in behalf of a spiritist accused of the illegal practice of medicine. Your correspondent tells us: "The eminent savant, who is now 82 years old, has, it is true, espoused spiritism, and has won the questionable privilege of being treated as a colleague by many charlatans who seek to take undue advantage of the authority that his name conveys."

This recalls to my mind an experience of my own years ago. With a colleague I was engaged in an effort to stamp out quackery in Allegheny County. At the time my efforts were particularly directed against a certain notorious goat lymph which was promoted very skilfully. The lymph was injected into the buttocks and for a time the remedy had quite a vogue. With the idea of obtaining sympathy and support, I mentioned to a distinguished professor of therapeutics our efforts to suppress this goat lymph. The learned man, who was known throughout this country and in Europe, was now aging; he turned to me and warned me to go slow about the goat lymph since he himself had received an injection recently with great benefit. So we do not have to go back to the days of Paracelsus, who invoked the witches to support and help him in his practice; for we have today eminent men in our profession who support some sort of cults, fads or follies.

And then can we wonder that the dear laity are carried away with these things? And if we are sensible and see things as they are must we not expect that, since such things always have been, they always will be?

THEODORE DILLER, M.D., Pittsburgh.

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS and queries on postal cards will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

HAZARDS OF ALUMINUM INDUSTRY

To the Editor:—Is there anything in the aluminum foundry and manufacturing works which is injurious to the health of the workers?. What effects and what treatment might there be, if any? Please omit my name.

M.D., Illinois.

ANSWER.—There is little reason to believe that metallic aluminum is the source of disease states among exposed workmen. True, the term "aluminosis" has been devised in connection with pneumonoconiotic disease due to aluminum clays. Cases are, however, rare and aluminum foundry work is not known to produce this condition. Among the 2,930 occupational disease cases brought to the attention of one state department of health during a recent period of two and one-half years, not one case was attributed to aluminum.

In founding aluminum there are a number of possible hazards unrelated to aluminum per se. The foundry temperature may reach 120 F.; gas may be employed as the fuel, thus introducing carbon monoxide hazards; cutting compounds, such as lard or paraffin oils, may be employed in machining aluminum casting and may thus occasion oil furunculosis. Aluminum may be alloyed with copper, nickel, zinc, iron or other metals. The dangers of these other metals may in this way be introduced.

In the recovery of foundry scrap, the mass is apt to be covered over or mixed with zinc chloride, potassium chloride or calcium fluoride. The skimmings from this metal reclaiming process, when in the presence of water and possibly organic material, evolve toxic gases and the mass may become incandescent. The exact nature of this gas or gases is not known.

TRYPARSAMIDE IN NEUROSYPHILIS

To the Editor:—Please tell me what objective ocular symptoms are recognized as definite contraindications for the administration of tryparsamide. Please omit name.

M.D., Oklahoma.

ANSWER.—Tryparsamide is indicated in certain types of neurosyphilis and has been used in systemic syphilis by some; but its efficacy there is probably much less than that of the arsphenamines. Tryparsamide has a toxic effect on the optic nerve and therefore should not be used in cases in which primary optic atrophy or neuroretinitis is recognized, either on ophthalmoscopic examination or suggested by the complaint of diminution of vision. When the optic atrophy has become complete, tryparsamide may be used, as further harm cannot be done to the optic nerve. During the course of treatment in an individual who has no pathologic changes in the optic disks, a careful ophthalmoscopic examination should be done before each injection in order to find the earliest possible neuritic damage. Anything more than slight blurring of the optic disks should be an indication for the cessation of the use of the drug. After the first two or three injections, the patient may complain of a slight blurring of vision, but if the ophthalmoscopic examination is negative, this may be disregarded. It is most important that the physician should be familiar with the signs of early optic neuritis given in any standard textbook and be skilled in the use of the ophthalmoscope, as there are now on record many cases of blindness due to the misuse of tryparsamide. Finally, it should be stated that there are a variety of methods of treatment applicable to both systemic syphilis and neurosyphilis far superior to tryparsamide for the ordinary case and much less dangerous.

GONORRHEA OCCURRING AFTER PREGNANCY

To the Editor:—Lately two women have come to me with the history of being pregnant three and four months, respectively. Both husbands have gonorrhea and have exposed their wives. I have assumed that these women have gonorrhea also. I am giving the usual local treatment and douches, omitting only tampons. Is my treatment rational? In short, what is the treatment of gonorrhea contracted by women after they are pregnant—both pre partum and post partum? Is there any particular thing to observe during confinement?

M.D., Michigan.

ANSWER.—First of all, numerous smears of the cervical, vaginal and urethral discharge should be made to determine whether these women actually have gonorrhea. If gonorrhea is present but the vaginal discharge is not profuse, it is not advisable to treat the cervix or vagina by means of douches, local applications or tampons. Not infrequently, local treatment aggravates the condition. If, however, a profuse discharge is present, it may be removed mechanically by the patient by means of douches containing potassium permanganate, mercurochrome-220 soluble or other antiseptic. The physician may apply a 2 or 4 per cent mercurochrome or a 5 per cent silver nitrate solution to the cervix and vagina a few times a week; but the applications must be made with gentleness. During labor, 15 cc. of 4 per cent mercurochrome solution may be gently instilled into the vagina every four hours. The bag of waters, if intact, should not be ruptured until the cervix is completely dilated and the child ready to be delivered. This is to prevent, as much as possible, contact between the vagina and the baby's eyes. The delivery should be spontaneous and, if possible, without any lacerations, because operative intervention and lacerations increase the incidence of postpartum infection. As soon as the child is born, 1 per cent silver nitrate should be instilled into its eyes and this should be repeated on the second and third day as well. A close watch should be kept to detect early signs of gonorrheal ophthalmitis. No douches or local treatment should be given during the puerperium for fear of spreading the infection. The patient should be kept in bed at least two weeks, but preferably longer. After involution has taken place, intensive treatment of the cervix and Skene's glands should be instituted.

WASSERMANN TESTS IN SUSPECTED SYPHILIS

To the Editor:—About thirty years ago a man had a sore on the penis which was accompanied by marked swelling and tenderness of the inguinal glands without suppuration. A diagnosis at that time by a physician excluded syphilis. No treatment was taken. No secondaries or rashes ever appeared. The man's health has always been good up until the last six or seven years. Symptoms of appendicitis appeared, and an appendectomy was performed two years ago. Occasionally there has been irregular heart action, diagnosed as extrasystoles. Murmurs and enlargement are absent. The patient passed through one of the best clinics in the country four years ago, and the diagnosis at that time was probable chronic cholecystitis and appendicitis. A blood Wassermann reaction was negative, as were other observations. The blood Wassermann reaction on two other occasions has been negative. The patient now has a mild colitis and intense fermentation, so that he has to avoid the use of too much carbohydrate. Otherwise there is no evidence of a lesion of the central nervous system. What I should like to know is this: Would one probably find a positive Wassermann reaction of the spinal fluid with the history? A technician advises me that one gets a positive Wassermann reaction of the spinal fluid only when there is evidence of syphilis of the nervous system. This patient gives a negative blood Wassermann reaction and no direct evidence of syphilis of the central nervous system. Could he still give a positive reaction of the spinal fluid? Please omit name.

M.D., Idaho.

ANSWER.—The history of this case, as given by our correspondent, is not one of generalized syphilis. There is no evidence advanced that would lead to a supposition of neurosyphilis. While it is possible to obtain several negative blood Wassermann tests even in the presence of a syphilitic infection, the serologic test must be taken simply as one of the signs of syphilis. If the reaction is constantly negative, there is probably little reason to believe that any general syphilitic infection is present, especially when there are no other symptoms or signs that might lead to a positive diagnosis. It is true that a positive Wassermann test of the spinal fluid may obtain when the blood tests are negative, provided neurosyphilis is present, but there is nothing in the history of this case that would lead us to believe that such a condition prevails. It is doubtful whether the spinal fluid would show positive results in this case.

INJECTION TREATMENT OF HEMORRHOIDS

To the Editor:—The Lippincott Company publishes a book known as "The Modern Treatment of Hemorrhoids," by Montague. In it is described an injection treatment for hemorrhoids. I have never taken any stock in such treatment and have advised my patients to consult a surgeon. However, many persons do not relish the idea of going to a hospital for the surgical removal of hemorrhoids and have gone to physicians who administer the injection treatment only. What is today the ethical status of the treatment as described in Montague's monograph?

A. E. CONTER, M.D., Apalachicola, Fla.

ANSWER.—The injection treatment of hemorrhoids was so viciously exploited by quacks that it was frowned on by most physicians. At present the method is used frequently by reputable proctologists. The English school has practiced the injection treatment with a 20 per cent solution of phenol in glycerin. J. Boas in Germany has reported 200 cases in which injections with alcohol were made. A solution of quinine-urethane (quinine hydrochloride, 0.5 Gm.; ethylurethane, 0.25 Gm.; distilled water to make 2 cc.) has its ardent advocates. Dextrose solution (1.1) injected after a preliminary intradermal

procaine hydrochloride injection is the most painless and probably the safest procedure.

The injection treatment has not wholly replaced operative treatment. If a prolapse of the rectal mucosa is present, or if fissures and fistulas are recognizable, the injection treatment is unsatisfactory. If instead of large varices, which are easy to inject, a spongy venous mass is present with a network of connective tissue septums separating almost microscopic venous sinuses, the injection treatment may result in hard persisting nodules, or even a necrosis with subsequent fistulas or fissures. These will require operative treatment.

It is evident that the injection treatment of hemorrhoids is not comparable with the injection treatment of varicose veins. These veins have no valves. The stasis in both the portal and the vena cava system, aggravated by the contractions of the sphincters and the levator ani, the infected field, but chiefly the entirely different structure of the spongy, venous masses, require special consideration. An article by V. Meisen (*Acta chir. Scandinav.* **64**:311, 1928, in English) gives detailed information on technic and solutions.

PROTECTION AGAINST DANGERS FROM X-RAYS

To the Editor:—I wish to know whether one hour a week of fluoroscopic work at 6 inch spark gap and 5 milliamperes would be dangerous to my hands. Would leather or rubber gloves protect my hands; if so, which would be better? I find that lead gloves are unwieldy.

J. D. RILEY, M.D., El Paso, Texas.

ANSWER.—There is always danger of injury from x-rays to the unprotected skin of fluoroscopists. The bare hands are particularly liable to be harmed. One hour a week of divided roentgen exposure to the unprotected skin by unfiltered rays at the milliamperage, voltage and distance commonly used in roentgen practice must not be permitted. If extreme care is used to avoid the slightest exposure to the primary x-rays the injury is reduced but is not advisable. Those who find the usual roentgen-ray proof gloves (so-called lead-rubber) unwieldy may use more flexible material, such as soft leather. Some have advocated the use of chamois skin gloves without openings. Roentgenologists of earlier days who have suffered irreparable harm to the skin from excessive roentgen exposures seldom, if ever, were found to show such skin changes above the cuff lines, indicating that even such material as the coat sleeve was sufficient to filter out the soft rays which injure the skin. The chief reliance must, however, still be the present heavy and unwieldy roentgen-ray gauntlets provided by the manufacturers of x-ray accessories.

The Second International Congress of Radiology adopted the following recommendation in regard to protection of the hands from x-rays:

22. Protective gloves, which should be suitably lined with fabric or other material, should have a protective value not less than 0.5 mm. of lead throughout both back and front (including fingers and wrist). Protective aprons should have a minimum lead value of 0.5 mm.

The recommendations adopted by the Second International Congress of Radiology, held in Stockholm, Sweden, in July, 1928, have been printed in the Bureau of Standards Circular 374. This circular can be obtained from the Superintendent of Documents, U. S. Government Printing Office, Washington, D. C., for five cents.

PROPHYLAXIS OF WHOOPING COUGH

To the Editor:—Will you kindly advise me of the status of the prophylaxis of whooping cough, if any. What can be done to abort the attack and to lessen the severity of attack?

C. ARBUTHNOT CAMPBELL, M.D., Steubenville, Ohio.

ANSWER.—It is difficult to make any positive statement about the prophylaxis of whooping cough, because the clinical results that have been reported are far from unanimous. One finds reports that are highly favorable, some that may be considered indecisive, and others that are skeptical about all methods that have been proposed. The consensus seems to be that there is at present no certain or specific remedy in the treatment of whooping cough; nor is there a certain immunizing agent.

It was observed by Jenner in his work in the prevention of smallpox that freshly vaccinated children seemed less susceptible to whooping cough than the unvaccinated. Some authors concurred in this observation; others could see no results. It seemed certain that revaccination did not produce results. The use of convalescent serum in the prophylaxis and treatment of whooping cough has been disappointing. Jundell employed normal adult serum derived from healthy persons, many of whom had not had whooping cough. A number of the children (twenty-four in all) were treated during the catarrhal stage or incubation period of the disease. He recognized that the number of children observed was insufficient to afford a basis for final conclusions, though according to his observations, as well as those of Zerathe, those who were injected early enough were protected against the disease, or the infection was aborted.

Vaccine therapy has been extensively employed. In some instances a vaccine made from the Bordet-Gengou bacilli has been used for prophylactic and therapeutic purposes. Others use a mixed vaccine, which is composed of Bordet-Gengou bacilli and other organisms contained in the sputum of children with whooping cough. The opinions as to the effect of the vaccines are greatly at variance. American observers, in part at least, believe that excellent results are obtained in the prevention of the disease. Others have not been so enthusiastic. Some think that, even if the disease cannot be prevented by the injection of the vaccine, it is rendered milder in its course after prophylactic treatment. The great difficulty is that an early diagnosis is generally impossible and, as a rule, prophylactic methods are instituted only after the disease has become fairly well established. In the face of this diversity of opinion concerning the use of vaccines as a prophylactic remedy it seems fair to say that it is still doubtful whether the pertussis vaccine is an unfailing specific in the prevention of whooping cough. The Council on Pharmacy and Chemistry has not admitted any "mixed" whooping cough vaccine to New and Nonofficial Remedies. In regard to simple pertussis bacillus vaccine it states that the evidence for its value either for prevention or for treatment is questionable. The use of quinine is still advocated by practitioners. So many drugs have been recommended and later on abandoned that drug therapy has fallen into discredit. The use of x-rays, ultraviolet rays and other light treatments has been tried without convincing results. Sedatives of various kind, such as bromides, antipyrine, codeine, chloral and phenobarbital are palliative, and one or the other of these may be required to quiet the cough and render the patient more comfortable during the height of the disease.

When the weather permits, the best results are obtained by fresh air treatment. Patients who are kept on sleeping porches or in the open air outdoors have a more favorable course and suffer less frequently from complications than those who are kept indoors in poorly ventilated rooms. For this reason, patients with whooping cough do better in the summer than in the winter, especially in our rigorous northern climate.

EFFECTS OF ELECTRICAL SHOCK

To the Editor:—I have a patient who received a severe electrical shock three weeks ago. She took hold of an exposed wire. The ring on the ring finger of the right hand was partly melted and a scar can be seen at the present time at the place where the ring was worn. Since the time of the injury the patient has lost ten pounds and suffers from almost daily nausea and vomiting, severe occipital headaches, insomnia and a "tearing pain" over the precordium. This pain extends down the right side of the abdomen and down the right leg. The pain also shoots down the right arm. The patient appears ill, but a thorough examination does not reveal evidence of any organic trouble. Blood and urine tests are negative. Could all these symptoms arise from an electrical shock? If so, could you quote me authorities on this subject? Please omit name.

M.D., Nebraska.

ANSWER.—It is likely that the symptoms referred to are the result of the accident. Though most of the victims of these accidents recover quickly from the shock except for complications resulting from the burns, a few observations are on record in which the electrical shock was followed by nervous disturbances in the form of paresis, muscular atrophy, degenerative neuritis and cerebrospinal lesions lasting for weeks and months. Dr. S. Jellinek has collected valuable material on this question and published in a little monograph entitled Der elektrische Unfall (Leipzig and Vienna, Franz Deuticke, 1927).

EFFECTS OF DOUBLE VAS LIGATION AND USE OF CONTRACEPTIVE DEVICE

To the Editor:—I have a patient, aged 30, who wishes me to do a double vas ligation on his person for purposes of sterilization. I would like you to discuss for me the following points, in connection with this operation: (1) effect on the sexual ability of the patient; (2) effect on the amount and character of the ejaculated material; (3) effect, if any, of the continued use of condoms on the health of the wife. Please omit my name and initials.

M.D., California.

ANSWER.—1. None.

2. Amount reduced through absence of spermatozoa and epididymal secretion.

3. In theory, and occasionally in fact, impairment.

VOMITING AND HEADACHE DURING MENSES

To the Editor:—Can you give me any suggestions concerning the relief of recurrent vomiting and headache during menses? I have a patient, aged 40, regular, with no anatomic basis for trouble, who has had violent "bilious" attacks with every period for more than twenty years. She is a nullipara, otherwise in excellent health, is not neurotic, and does not magnify her ills. Would any of the desiccated endocrine preparations be indicated? I have tried various migraine remedies, diets and other usual measures with no relief. Please omit my name.

M.D., New Jersey.

ANSWER.—It is unfortunate that there is no specific remedy for the vomiting and headaches that occur at the time of the menses. Endocrine preparations are nearly always ineffectual. Occasionally they give temporary relief but the result may usually be attributed to the effect on the psyche. Attention to the general health and especially the bowels helps some women.

Medical Education, Registration and Hospital Service

COMING EXAMINATIONS

AMERICAN BOARD OF OPHTHALMIC EXAMINERS: Portland, Ore., July 8, and Philadelphia, Oct. 21, 1929. Sec., Dr. William H. Wilder, 122 South Michigan Avenue, Chicago.

ARKANSAS — Homeopathic: Little Rock, May 14, 1929. Sec., Dr. Allison A. Pringle, Homeopathic Board of Medical Examiners, Eureka Springs, Ark.

GEORGIA: Atlanta and Augusta, June 5-7, 1929. Sec., Dr. B. T. Wise, Americus, Ga.

NEBRASKA—Basic Science: Lincoln, May 14-15, 1929. Chief, Mrs. Clark Perkins, Bureau of Examining Boards, State House, Lincoln.

NEVADA: Carson City, May 6-8, 1929. Sec., Dr. Edward E. Hamer, Board of Medical Examiners, Carson City, Nev.

OHIO: Columbus, June 3-6, 1929. Sec., Dr. H. M. Platter, 85 East Gay Street, Columbus, Ohio.

INVESTIGATION OF NEGRO HOSPITALS

Made under the Direction of the Council on Medical Education and Hospitals of the American Medical Association

In August, 1927, representatives of the National Medical Association and the National Hospital Association requested that an investigation of all negro hospitals be made jointly under the auspices of the American Medical Association, the American College of Surgeons, and the American Hospital Association. Later it was hoped that the Julius Rosenwald Fund might become interested. In the hope that sufficient means from various sources might be secured, the Council on Medical Education and Hospitals was given authority to expend $2,000 from its 1927 appropriation toward the investigation. As sufficient money could not be raised and the Julius Rosenwald Fund did not favor the appropriation of funds for this purpose, it appeared as though the project would need to be abandoned. It was then undertaken independently by the Council on Medical Education and Hospitals, and early in 1928 the sum of $5,000 was set aside by the Board of Trustees for the investigation of negro hospitals.

PURPOSE OF INVESTIGATION

In asking for the investigation, the negro associations had realized that adequate hospital facilities for the colored population could not be obtained without the financial and advisory assistance of the white race. Therefore it was proposed that an investigation be made so as to determine, first, the extent to which hospitalization for the colored race was inadequate, and that a plan might be devised whereby more hospitals for the negroes could be developed and that the standards of those already existing could be improved. Incidentally, the Council on Medical Education and Hospitals was interested in securing more complete data regarding all negro hospitals.

PLAN ADOPTED

It was planned that the investigation should be made by a competent negro physician who should also have ability as a hospital administrator. Dr. J. H. Ward, medical director of the Veterans' Bureau Hospital No. 91, Tuskegee, Ala., was invited to do the work, but he could not obtain a leave of absence sufficiently long to make the investigation. The services of Dr. Algernon Jackson, professor of public health, Howard University, Washington, D. C., were finally secured for the four months from June 1 to Sept. 30, 1928. In this limited time it was decided to have Dr. Jackson visit the negro hospitals in the Southern states and furnish detailed reports regarding hospital buildings, equipment, staff members, nurses, patients, type of professional work done, and the like. He was requested also to send in reports regarding any other negro hospitals which had not been previously reported. Dr. Jackson was requested to grade the hospitals into four classes, A, B, C and D, depending on their degrees of excellence. In class D were to be placed those institutions which were considered to be entirely unworthy of support.

VERIFICATION

Without prejudice but with an earnest desire to convey a true understanding of existing conditions with reference to negro hospitals, as well as the total facilities for the hospitalization of the negro in the South, Dr. Jackson's original report was submitted for review to Drs. C. C. Bass of New Orleans, John E. Boyd of Jacksonville and James S. McLester of Birmingham, all of whom have had a lifelong contact with the negro and spent a score or more of years in medical and hospital service in their midst. The report prepared by Dr. Boyd was also reviewed by officers of the Jacksonville medical, dental and pharmaceutical societies—the entire negro medical profession of the city—in a special session held at the Duval County Hospital, Jacksonville, Fla., March 27, 1929, and was endorsed by unanimous vote. The report as it now reads, therefore, is believed to be accurate and reliable.

THE INSPECTOR'S REPORT AS REVISED

From June 1, 1928, to Sept. 15, 1928, 120 hospitals for negroes were visited in the following states: Virginia, 11; West Virginia, 5; North Carolina, 13; South Carolina, 8; Georgia, 10; Alabama, 12; Louisiana, 2; Texas, 9; Mississippi, 4; Arkansas, 6; Oklahoma, 6; Tennessee, 10; Kentucky, 4; District of Columbia, 4; Maryland, 3; Ohio, 1, and Indiana, 2.

CONDITIONS FOUND

Hospitals were visited ranging in capacity from two to two thousand beds, and representing the best and the worst in organization and management. In some instances the conditions were so serious and disheartening as to prompt the recommendation that the hospitals in question be abolished. At the same time other negro hospitals were observed to be complying with recognized standards. Hospitalization of the negro in small towns is most unusual. In the larger cities the indigent negro is well provided for in the public hospitals, but service in the negro hospitals for pay patients is, as a rule, poor, and in some even dangerous.

Hospitalization of the negro, especially the pay patient, is a grave problem which must be met by the negro race, especially its physicians and hospitals. With the poor facilities offered in most instances at present, the negro physician and hospital do not attract the negro patient or satisfy those who are interested in his welfare. When the negro pay patient compares the inadequate facilities of the negro physician and hospital with the services offered him by a white hospital, though that service be of a poorer standard than that received by white patients, it is possible to understand his choice of the latter. This situation must reasonably be the direct responsibility of the negro physicians and hospitals themselves, and may be explained by an apparent indifference to possible improvement. This is not said hastily, but after careful thought and a wide observation of conditions as they exist in the negro hospitals in the South. Nothing about this entire situation is difficult to understand, for some of the so-called hospitals visited were so filthy and inadequately equipped and managed that one would hesitate to take a drink of water in them, much less submit to even the most minor surgical operation.

On the other hand, institutions were visited in which efficiency, service and care seemed the guiding motives. They are successful and flourishing, having earned and kept the confidence of the negro patient. In every instance when a first class negro surgeon offers his people the facilities of a first class hospital, he gets the negro patient. One may wonder why reference is

so constantly made to the surgeons and not to the physicians in this analysis: this is because, in the South, colored pay patients go to the hospital chiefly for surgical, and seldom for medical care.

Hospitalization for the negro is generally poor throughout the South, except for the indigent in public hospitals in larger centers. The negro race must therefore accept this situation, or assume the responsibility of new pay hospital development. The economic status of the negro in the South is such, however, as to make this prohibitive, without the assistance of the white race. It is interesting to record, as the result of observation, in this connection, that today the whole South is showing a more kindly and sympathetic attitude toward the negro than ever before, and a willingness or even a desire to share its hospital beds with him in most of the places visited. But there are many localities where the sick negro can find no hospital except the incompetent negro hospital unless he is of the indigent class. Some of these questionable hospitals should be abolished; some of the more promising should be encouraged with financial aid and instruction. Almost all of them seek guidance and help and will cheerfully accept advice as to how they can improve their service.

A scarcity of trained hospital executives and administrators is one of the main reasons for the failure of the negro hospital to function properly. A man may be a good physician but fail as an administrator. Special training is essential for the mastery of such positions. Financial support, other than that derived from pay patients, is also essential to the success of these hospitals. At present only a small percentage of the negro population in the South can pay for private room or even ward service in a well operated hospital.

RECOMMENDATIONS

1. In order to determine the exact status of the matter of hospitalization for negroes in the South, it is recommended that a careful study be made, state by state, of hospital beds available, from all sources, for negroes: the standard of service rendered and the proportion of pay and indigent patients.

2. The conditions under which negro nurses are trained in negro hospitals are deplorable. It is recommended that a definite campaign be instituted to have each state adopt legislation requiring hospitals to obtain a license before operating a training school for nurses. The present regulations are inadequate. The problem of the inefficient nurse is as much the concern of the state as is the problem of the inefficient doctor.

3. It is believed that a survey of some of the most likely institutions, with the purpose of instructing them in methods of administration and routine procedure, would be a valuable philanthropy.

4. Negro hospitals should not necessarily have negro executives and a negro hospital staff. Public hospitals, with beds for negro patients, should still have white executives and a white hospital staff, at least in the South.

5. Negro hospitals in general should be controlled by negroes, but at present in the South the assistance of the white people is often needed.

RECAPITULATION

HOSPITALS VISITED

Capacity.—The total capacity of the 120 hospitals visited was 9,027 beds, of which 6,451 on the average were occupied during the last fiscal year.

Grading.—Of the 120 hospitals visited, sixteen were found worthy of an A grade; forty-three were of grade B; thirty were of grade C; twenty-seven were of grade D, and for four no grade was given. Grading in this manner was not for a permanent classification but merely to give an indication of their comparative merits.

Worthiness.—Of the 120 negro hospitals, ninety-three were considered worthy of support, while twenty-seven were so badly organized or conducted as to be deemed unworthy of receiving support. Of the ninety-three, sixty-seven were already fairly well supported, including one which was endowed.

Type of Hospitals.—Of the 120 institutions inspected, 102 were listed as general hospitals and eighteen as special hospitals, including seven which were designated as surgical and maternity hospitals. (Attention is called to the statement in the preceding report that the majority of negroes going to hospitals do so for surgical and not medical treatment.)

Location of Hospitals.—Of the 120 hospitals, sixteen were located in cities having between 200,000 and 500,000 inhabitants; sixteen were in cities between 100,000 and 200,000; fifty-eight were in cities between 10,000 and 100,000; while thirty were in cities having less than 10,000 people.

Personnel of Hospital Staffs.—Of the 120 hospitals, the staffs of eleven were made up entirely of white physicians; of forty-one, the majority of the staff members were white; of forty-two, the staffs were made up entirely of negro physicians; and of twenty-one, the majority of the staffs were negroes. Of the 999 on the staffs of the 120 hospitals, 482 were white physicians and 515 were negroes.

Superintendents.—Of the 120 hospitals, the superintendents were white in seventeen, while of 103 the superintendents were negroes. Of all hospital superintendents, sixty-seven were physicians, thirty-three were registered nurses, five were graduate nurses, while fifteen had neither medical nor nurse training.

Control.—Twenty-five negro hospitals were under white control and ninety-five were under negro control. Of these, seven were city and county institutions, two were under national federal control, four were under state control, and fifty-three were private; independent, incorporated for public service, sixty-seven.

Nurse Training Schools.—In the 120 hospitals, nurse training schools were found in sixty, with a total of 690 nurses.

Types of Nurses.—In all negro hospitals, 296 registered nurses were employed. There were thirty-five graduate nurses who were not registered, and eight so-called practical nurses.

HOSPITALS NOT VISITED

Eight hospitals were found to be closed; two hospitals were closed for the summer, and three hospitals could not be reached on account of floods or other reasons.

CONCLUSION

Of the 120 hospitals inspected by Dr. Jackson, twenty-nine were new or previously unreported institutions and ten others were reported as closed for various reasons. Previous to the investigation the American Medical Association had knowledge of 154 colored hospitals, and the newly discovered institutions raised the number to 183.

This number, minus the ten reported closed, leaves a total of 173. There are sixty-three hospitals not inspected by Dr. Jackson, most of which are located in Northern states, which need to be reinspected before the totals regarding all colored hospitals, nurses, and the like, will be complete. A knowledge is essential also of the extent to which city, county and state hospitals are providing facilities for colored people. In the city of Atlanta, for example, there are three colored hospitals with a total capacity of ninety beds. This naturally appears inadequate for a community whose negro population is over 75,000. The picture is considerably changed, however, when it is learned that the 200 beds colored unit of Grady Hospital treated 28,329 patients during the fiscal year 1927-1928, approximately one third of the colored population of Atlanta and Fulton County. The larger part of the negro population is not self supporting in matters of health, and it is not difficult usually for a colored person to gain admission to a charity hospital where facilities for negro hospitalization are available.

The example given shows clearly that, in order to secure an exact knowledge of hospital facilities for Negroes, in addition to the work already carried out, the following information must be secured:

(*a*) The morbidity rates among negroes.

(*b*) The relationship of hospital facilities for colored people to the negro population of the community.

(*c*) The number of beds available for negroes in white hospitals.

(*d*) The distribution of negro physicians and nurses.

(*e*) Facilities for training an adequate supply of Negro physicians and nurses.

(*f*) The economic and social conditions of the colored race.

Book Notices

THE ADRENALS: THEIR PHYSIOLOGY, PATHOLOGY AND DISEASES. By Max A. Goldzieher, M.D., Director of Laboratories United Israel Zion Hospital, Brooklyn, New York. Cloth. Price, $7.50. Pp. 436, with 73 illustrations. New York: Macmillan Company, 1929.

This monograph contains chapters on the histogenesis, anatomy, physiology, pathologic anatomy and pathologic physiology of the diseases of the suprarenals. The author is a pathologist, and the data on anatomy and pathology are presented clearly. The presentation of the physiologic data, and the even more complex phenomena of disease syndromes of the suprarenal glands, is less satisfactory; but the author gives evidence of wide familiarity with the literature in all the fields. Almost a third of the monograph is taken up by the references to the literature. On physiology the author not infrequently presents statements of facts that are either actually questionable or disproved: "Unilateral adrenalectomy and denervation of the other adrenal leads to sudden death." "Demonstration of a substance as active as choline, an extract of the adrenal cortex in the blood of the adrenal gland, might suggest the possibility of this substance (choline) being the sole and only active principle of the adrenal cortex, but other considerations lead us to believe that the adrenal cortex produces other active substances besides choline." It is not yet proved that normal suprarenals under the ordinary conditions of life ever produce choline in sufficient amounts to be of physiologic or pathologic significance. "Symptoms like those constituting the acute attack of glaucoma are due to an excessive output of adrenalin and to a peculiar response of the ocular tissues to such an increased sympathetic stimulation." The author calls the hypothetic hormone of the suprarenal cortex "interrenin," and under the subject of suprarenal organotherapy he makes the following fanciful statement (p. 318): "Menstrual disturbances, impotency, frigidity in women, infantilism and various other troubles of the sexual sphere might be the proper field for successful interrenin therapy. Graves' disease and diabetes are two other important endocrine diseases in which we may expect that the use of interrenin will be beneficial to the patient." The monograph is a useful source book for literature and helpful on the structures and pathologic side of the gland. On the physiologic side it is voluminous but not critical; on the side of suprarenal disease and organotherapy it can scarcely be said to be a first rate guide.

HYDATID DISEASE: ITS PATHOLOGY, DIAGNOSIS AND TREATMENT. By Harold R. Dew, M.B., B.S., F.R.C.S., Honorary Surgeon to Out-Patients, Melbourne Hospital. Cloth. Price, 27s. 6d. net. Pp. 429, with 87 illustrations. Sydney: Australasian Medical Publishing Company, Ltd., 1928.

Hydatid disease occurs in an animal when one of the tapeworms passes its larval or cystic stage in that animal's body. The hydatid and its content is the worm in its cystic larval form. And because the tapeworm which more frequently than all others succeeds in utilizing man as its intermediate host is that of the dog, hydatid disease has come to mean infection with *Echinococcus granulosus*. The cysticercus or hydatid referred to by the term "hydatid disease" is that of this particular tapeworm, frequently referred to as *Taenia echinococcus*. But only a few of the vast numbers of these worms get into human bodies to spend nearly all their life cycle there as cysts. Man is merely an incidental intermediate host, for the hydatid disease caused by the dog's tapeworm is essentially a disease of sheep. As compared with its customary alternating existence between dogs and sheep, the dog to man transfer of this worm is exceedingly rare. Moreover, whereas the interchange between dogs and sheep proceeds back and forth without intermission, the worm enters a blind alley when man serves as its intermediate host, for man's entrails are not eaten by dogs. The parasite consequently thrives where sheep and dogs are abundant, where sheep raising is conducted on a large scale and abattoir methods are still unhygienic. In countries where such conditions prevail, it is no wonder that man is occasionally drawn into the vortex. Only two other comprehensive works on hydatid disease have appeared in English, and these were published more than thirty years ago. This work is therefore timely. And in Australia, where there are nearly three times more sheep per person than in any other country except New Zealand, opportunities to study the disease are still abundant. There are more patients with hydatid disease in Victoria than in any of the other Australian states, and the investigations culminating in this book were carried out during five years in the Hall Institute of Research in Pathology and Medicine in Melbourne. Following excellent accounts of the geographic distribution of the disease throughout the world, descriptions of the parasite and its development, reports of its various hosts, general pathology of the disease and special methods employed in its diagnosis and prophylaxis, the remainder of the book, about three fourths, is occupied with particulars of the disease in different parts of the body. Brief summaries of twenty-two cases are given. They seem to have been carefully selected, a matter that must have presented no great difficulty, since 837 patients with hydatid disease were in the hospitals of Victoria from 1915 to 1924, one to every 294. The illustrations of the gross disease are good, and full references to the literature accompany each chapter.

THE DIABETIC LIFE: ITS CONTROL BY DIET AND INSULIN. A Concise Practical Manual for Practitioners and Patients. By R. D. Lawrence, M.A., M.D., M.R.C.P., Chemical Pathologist and Lecturer in Chemical Pathology, King's College Hospital. Fourth edition. Cloth. Price, $2.50. Pp. 188, with 12 illustrations. Philadelphia: P. Blakiston's Son & Company, 1928.

This is a manual on diabetes for practitioners, much less so for patients. Aside from the more accurate detail on food values, the book has very little justification for having been printed. The line ration scheme of figuring the diabetic patient's diet deserves some praise, but it is not wholly accurate. The 5 Gm. diet scheme does not have any particular value. It is too simple and superficial a book for the medical man interested in diabetes, and certainly too complicated a manual for the patients.

HANDBUCH DER ALLGEMEINEN UND SPEZIELLEN ARZNEIVERORDNUNGSLEHRE FÜR ÄRZTE MIT BESONDERER BERÜCKSICHTIGUNG DER DEUTSCHEN ARZNEIMITTEL-GESETZGEBUNG ZUGLEICH ALS PHARMACOPOEA UNIVERSALIS. Bearbeitet von Dr. G. Klemperer, Geh. Medizinalrat, Professor Direktor der IV. Mediz. Universitätsklinik im Stadt. Krankenhaus Moabit, und Dr. E. Rost, a. o. Professor an der Universität Mitglied des Reichsgesundheitsamts, Berlin. Fifteenth edition. Paper. Price, 64 marks. Pp. 944. Berlin: Julius Springer, 1929.

The subject matter, as the title indicates, is a compilation of many tested recipes of the old and new materia medica. The work, while primarily based on the sixth edition of the German pharmacopeia, is intended to be a prescribing guide of international interest. The point of view, however, is decidedly provincial and reflects German tendencies almost to the exclusion of others. The inclusion of mixtures of drugs (hypnotics and analgesics under coined names) is contrary to predominant American thought on the subject. Veramon (introduced in this country as Peralga) is stated to be a compound of equimolar proportions of pyramidon (amidopyrine) and barbituric acid, although results published by the A. M. A. Chemical Laboratory differ from this conception. The compilation of a large number of formulas without qualification of the specific instances of usage tends to obscure rather than to accelerate therapeutic progress. The American practitioner is materially aided by such publications as Useful Drugs, Epitome of the U. S. Pharmacopeia and New and Nonofficial Remedies, which have brought rationality into the materia medica. This book will be of little use to the American physician since most of the recipes are based on German practice. However, for the student of pharmaceutic development, it contains much of interest.

KRANKENBEHANDLUNG DURCH UMSTIMMUNG. (Sog. „unspezifische" Therapie). Eine Einführung für Ärzte. Von Prof. Dr. Hermann Königer. Paper. Price, 13 marks. Pp. 230. Leipzig: Georg Thieme, 1929.

Königer's interest in nonspecific therapy developed as a result of his interesting studies on the factor of time relationship to the therapeutic effect of drugs. Being the work of a careful pharmacologist, the book is characterized by thoroughgoing objectivity. It has, however, been written with the idea of being chiefly useful to the practitioner; and this too it should prove to be. Throughout, he has sought to stress the importance of adapting treatment to the physiologic status of the

patient, a desideratum which only in recent times and haltingly is being approached. It is, however, a point of view that is of utmost importance in the consideration of nonspecific therapy because this form of treatment depends largely on general biologic alterations of the body. It is interesting to observe the wide latitude now occupied by the field of nonspecific therapy. Much ground has been covered in the fifteen years from the time when nonspecific therapy meant merely the injection of typhoid or colon vaccine. It is just this realization of the innumerable nonspecific methods of approach in therapeusis that is beginning to make it imperative for each physician to familiarize himself with the inherent possibilities. From the practical point of view the monograph will be found useful and instructive; from the theoretical point of view, most stimulating.

LE TRAITEMENT DES TEIGNES PAR L'ACÉTATE DE THALLIUM. Par le Docteur Jesus Gonzalez Urueña, professeur de clinique dermatologique à la Factultéde Médecine de Mexico. Paper. Price, 18 francs. Pp. 144, with 9 illustrations. Paris: Masson & Cie, 1928.

The author has outlined the chemical, experimental, physiologic, biologic and anatomopathologic data on ringworm, and has written a notable chapter on the practical therapeutics of thallium acetate in its application to the safe production of epilation in the treatment of ringworm. To those who are familiar with the difficulty of treating ringworm without epilation, this method comes as a boon. To those who have used the roentgen ray, with its inherent dangers and the subsequent mental worry, it comes as a surcease. The book is recommended because of its thoroughness, its conservatism, and its richness in practical information.

A DOCTOR'S LETTERS TO EXPECTANT PARENTS. By Frank Howard Richardson, M.D., F.A.C.P. Cloth. Price, $1.75. Pp. 118, with illustrations. New York: W. W. Norton & Company, Inc., 1929.

This book consists of eighteen letters, nine of which are addressed to the prospective mother and nine to both the prospective mother and father. The letters are arranged in such a way that two are to be read at the beginning of the second month of pregnancy, two at the beginning of the third month, and so on until after delivery. The letters contain wholesome and useful information and advice concerning purely obstetric problems and also intimate matters of family life. There are however, a few suggestions that require correction. The author does not inform the pregnant woman that she needs a complete physical examination, including examination of the urine and blood pressure reading, until the fourth month of gestation. Pregnant women should see a physician as soon as they know they are to have a baby, for it is important to know early which women have cardiac, pulmonary, renal or other disturbances. The author advises women to "harden the skin of the nipples against the time when the baby is to begin his assault upon them" and for this purpose advocates the application of 95 per cent alcohol three times a day. This suggestion may do harm because soft nipples are desirable, not hard ones. The latter are easily fissured and infection may result. The letters are written in simple language, and the few technical terms that are used are clearly explained. Most of the information given to the mothers is incorporated in the prenatal booklets which many physicians distribute to their patients; hence the book can be especially recommended by physicians who do not give their patients printed information.

A HANDBOOK FOR THE DIABETIC. By Albert H. Rowe, B.S., M.S., M.D. Cloth. Price, $2.50. Pp. 129, with 4 illustrations. New York: Oxford University Press, 1928.

This book is just another one of the series of manuals now being issued for the diabetic patient. If one believes in the necessity of always using weighed diets this book has its value; but it would seem that for practical purposes something can be said in favor of teaching the diabetic patient how to transfer his weighed food into amounts measurable by ordinary kitchen standards. Also one wonders what is "the present dietetic treatment of the disease . . . first introduced by Allen." And certainly the relation of infections to the cause of the disease is not established on grounds secure enough to warrant the statements that "diabetes in children usually develops as a result of some infection" and that "infections are probably the main cause of diabetes even in adult life."

Books Received

Books received are acknowledged in this column, and such acknowledgment must be regarded as a sufficient return for the courtesy of the sender. Selections will be made for more extensive review in the interests of our readers and as space permits. Books listed in this department are not available for lending. Any information concerning them will be supplied on request.

THERAPEUTISCHES TASCHENBUCH DER HAUTKRANKHEITEN: Übersichtlich zusammengestellte therapeutische Vorschläge nach modernsten Auffassungen unter Berücksichtigung der homöopathischen Erfahrungen an der Bier'schen Klinik. Von Dr. med. Lucke, Facharzt für Haut- und Harnleiden der chirurgischen Universitätsklinik, Berlin. Second edition. Cloth. Pp. 124. Berlin: Dr. Madaus & Co., 1928.

Guide to dermatologic therapy with considerations from the point of view of homeopathy.

QUESTIONS CLINIQUES D'ACTUALITÉ. Leçons professées a la charité service du professeur Sergent. Par MM. Babonneix, Benda, Léon Binet, Bordet, etc., etc. Paper. Price, 34 francs. Pp. 253, with illustrations. Paris: Masson & Cie, 1929.

Collected papers by French clinicians on a variety of topics in internal medicine.

L'INDIVIDUALITÉ DU SANG EN BIOLOGIE, EN CLINIQUE ET EN MÉDECINE LÉGALE. Par Leone Lattes, professeur à la Faculté de Médecine de Modène. Préface du professeur E. Jeanbrau. Paper. Price, 50 francs. Pp. 314, with 66 illustrations. Paris: Masson & Cie, 1929.

Details of blood changes in disease with some medicolegal considerations.

ORIGEN Y CURABILIDAD DEL CÁNCER. Por el Dr. Gamissans, Urogine-cólogo. Paper. Pp. 48, with illustrations. Barcelona, 1929.

Brief Spanish handbook of popular information on cancer.

HANDBUCH DER PATHOGENEN MIKROORGANISMEN. Herausgegeben von W. Kolle, R. Kraus, und P. Uhlenhuth. Lieferung 27. Band VI, Infektionen durch Nekrosebacillen. Von Dr. B. Albrecht. Der infektiöse Abortus des Rindes (Bang-Infektion). Von Dr. K. Poppe. Der infektiöse Abortus des Pferdes. Von Prof. Dr. R. von Ostertag. Die Paratuberkulose des Rindes. Von Prof. Dr. H. Miessner, und Dr. R. Berge. Bösartiges Katarrhalfieber des Rindes. Von Dr. W. Geiger. Epizootische Lymphagefässentzündung (Lymphangitis epizootica). Von Dr. G. Baars. Schweineseuche. Von Dr. K. Glässer. Bilharziasis oder Schistosomuminfektionen. Von Dr. Ad. Lutz, und Dr. G. A. Lutz. Die Ankylostomiasis in der gemässigten Zone. Von Prof. Dr. H. Bruns. Die Ankylostomiasis der Tropen und Subtropen. Von Dr. Baermann. Third edition. Paper. Price, 34 marks. Pp. 673-992, with illustrations. Jena: Gustav Fischer, 1929.

HANDBUCH DER UROLOGIE. Herausgegeben von A. v. Lichtenberg, F. Voelcker, und H. Wildbolz. Band V: Spezielle Urologie. Teil 3: Erkrankungen der Harnleiter der Blase, Harnröhre, Samenblase Prostata, des Hodens und Samenstranges und der Scheidenhäute Scrotum, Gynäkologische Urologie. Bearbeitet von R. Bachrach, V. Blum, F. Colmers, E. Joseph, usw., usw. Paper. Price, 162 marks. Pp. 1134, with 347 illustrations. Berlin: Julius Springer, 1928.

DIABETES AND ITS TREATMENT. By Frederick M. Allen, M.D., Director of the Physiatric Institute, Morristown, New Jersey. The National Health Series edited by the National Health Council. Cloth. Price, 30 cents. Pp. 98. New York: Funk & Wagnalls Company, 1928.

TRANSACTIONS OF THE THIRTY-FOURTH ANNUAL MEETING OF THE AMERICAN LARYNGOLOGICAL, RHINOLOGICAL AND OTOLOGICAL SOCIETY, INC., HELD IN WASHINGTON, D. C., MAY 3RD, 4TH AND 5TH, 1928. Cloth. Pp. 588, with illustrations. The Society, 1928.

NORTH MANCHURIAN PLAGUE PREVENTION SERVICE REPORTS 1927-1928. Edited by Wu Lien Teh, M.A., M.D., B.C., Director and Chief Medical Officer of the Service. Volume VI. Paper. Pp. 350, with 71 illustrations. Tientsin: Tientsin Press, Ltd., 1929.

THIRTY-SECOND REPORT OF THE PROVINCIAL BOARD OF HEALTH INCLUDING SEVENTEENTH REPORT OF MEDICAL INSPECTION OF SCHOOLS, YEAR ENDED JUNE 30TH, 1928. Province of British Columbia. Paper. Pp. 63, with illustrations. Victoria, B. C., 1929.

LA INCORPORACION DEL PROFESOR CLAUDE REGAUD COMO DOCTOR HONORIS CAUSA DE LA FACULTAD DE MEDICINA DE LIMA Y MIEMBRO EXTRANJERO DE LA ACADEMIA NACIONAL DE MEDICINA, 20 OCTUBRE, 1928. Paper. Pp. 37. Lima, 1928.

IODINE IN NUTRITION. A Review of Existing Information. By J. B. Orr, and I. Leitch. Medical Research Council, Special Report Series, No. 123. Paper. Price, 2s. 6d. net. Pp. 108. London: His Majesty's Stationery Office, 1929.

DIE STOFFWECHSELKRANKHEITEN IN DER PRAXIS. Von Professor Dr. Friedrich Umber, aerztlicher Direktor des Krankenhauses Westend. Second edition. Cloth. Price, 6.50 marks. Pp. 168. Munich: J. F. Lehmanns, 1929.

A STUDY OF INTRACRANIAL SURGERY. By Hugh Cairns, Medical Research Council, Special Report Series, No. 125. Paper. Price, 3s. net. Pp. 83, with 37 illustrations. London: His Majesty's Stationery Office, 1929.

REPORT OF THE INTERNATIONAL CONFERENCE ON CANCER, LONDON, 17TH-20TH JULY, 1928. Held under the auspices of the British Empire Cancer Campaign. Cloth. Price, $12. Pp. 588. New York: William Wood & Company, 1928.

LIST OF PSYCHIATRIC CLINICS FOR CHILDREN IN THE UNITED STATES. Bureau Publication No. 191. Paper. Price, 10 cents. Pp. 28. Washington, D. C.: Supt of Doc., Government Printing Office, 1929.

EIGHTEENTH ANNUAL REPORT OF THE STATE INSTITUTE FOR THE STUDY OF MALIGNANT DISEASE FOR THE YEAR 1928. State of New York, Department of Health. Paper. Pp. 33. Albany, 1929.

FIFTY-SIXTH REPORT OF VITAL STATISTICS OF THE PROVINCE OF BRITISH COLUMBIA FOR THE YEAR 1927. Provincial Board of Health. Paper. Pp. 93. Victoria, B. C., 1929.

Miscellany

The Evolution of the Human Races

As conservator of the museum and hunterian lecturer at the Royal College of Surgeons, Sir Arthur Keith is largely concerned with John Hunter's work. He is imbued with his spirit; he follows his method and he draws his conclusions from the whole field of life. Anatomist, physiologist, pathologist and anthropologist are all united in the biologist, for whom such distinctions are only artificial. He sees the normal and the abnormal as one. The comparatively recent discovery of the endocrine mechanism dominates much of his teaching, as is shown in his Huxley memorial lecture to the Royal Anthropological Society on the evolution of the human races. He first reviewed the study of Huxley, who divided humanity into four classes—Xanthochroid or fair (now called Nordic), Mongoloid, Negroid and Australoid. How well he seized the salient features of man's racial distribution is shown by the following extract from his writings: "Draw a line on the globe, from the Gold Coast in West Africa to the Steppes of Tartary. At the African end there live the most dolichocephalic, prognathous, curly-haired, dark-skinned of men—the true Negroes. At the other end there live the most brachycephalic, orthognathous, straight-haired, yellow-skinned of men—the Tartars and Calmucks. The two ends of this imaginary line are indeed, so to speak, ethnological antipodes." Huxley then proceeded to draw another imaginary line from Britain to Australia, passing through India and thus crossing his first imaginary line. At one end was his Xanthochroid type, and at the other the Australian aborigine. According to Huxley's conception of a race every member must carry traits by which he can be picked out of a nude mixed crowd of all the nations. Such a race, in which every member is recognizable at sight, Keith terms a "pandiacritic" race. But if evolution is true we should find races in every stage of differentiation from a zero point (adiacritic) through microdiacritic and macrodiacritic to the full, or pandiacritic, state.

Huxley was disappointed in his expectation that cranial characters would provide the chief criterion of race. He found them of secondary consequence. His Xanthochroid type might have a long skull or a round one, and the same was true for the Mongoloid. He realized that the primary discrimination between human races must be made from surface traits—color of skin and texture of hair. To these Keith would add the significant traits of the face, so hard to measure but so apparent. The existence of four primary types—Australoid, Negroid, Mongoloid and Xanthochroid—settled in the four parts of the world where they now attain their greatest degree of differentiation allows us to explain as hybrids the intermediate types, which occupy intervening zones.

THE ENDOCRINE MACHINERY OF RACIAL EVOLUTION

The growth of the body and the differentiation of its racial traits are controlled by hormones. Castration in youth profoundly alters the growth of the body, producing a eunuch with all the appearance of a new racial type. The potent action of the pituitary gland on growth is shown in acromegaly. The features which become altered are those which undergo racial differentiation. The influence of the thyroid and suprarenal glands on growth is revealed by disease.

We are justified in holding that primitive man was pigmented by the fact that the most primitive type now living—the Australian aborigine—is dark brown, and that the anthropoid apes, which have the nearest structural kinship to man, are pigmented. Fairness—the absence of pigment—appears to be a recently acquired character. The suprarenal body is concerned in the formation of pigment, but we have no evidence as yet of any structural difference between the suprarenal of a negro and that of a Scandinavian. We are just beginning to realize that light can produce certain physiologic effects when it penetrates the skin, and pigment must help to screen the nude bodies of those exposed to a tropical sun. A fair race could have an advantage only under temperate conditions such as northern Europe provides. The fetus does not require pigment, as light does not penetrate to it. The negro baby has reached only a brown stage at birth; two months earlier, its skin is not darker than that of a southern European; still earlier its skin is as little pigmented as that of the northern European. The negro child passes through all the stages from the lowest to the highest degree of pigmentation, as do the young of the gorilla and chimpanzee. In the fair European the process of pigmentation is arrested at one of the earlier fetal stages; in other races arrest occurs at later stages. The Nordic man retains a stage which is transitory in the development of other races. Many human characters have been acquired by the operation of this law—the tendency for developmental stages to be delayed until childhood or adult life is reached (Bolk's law).

How far does modern physiology help to explain Huxley's third evolutionary center—the Mongolian? Under aberrant action of the thyroid, persons assume a resemblance to the Mongoloid type. Another condition, the mongolism of children, has all the signs of being due to endocrine disorder. A third derangement of growth—achondroplasia—also reproduces some features of the Mongolian type. Another series of facts suggests that pure Mongolianism is of comparatively recent origin. When we leave the area of its sharpest characterization and pass southward into the Malay Archipelago, or cross to America, we find that pure Mongolian traits gradually disappear and are replaced by less specialized features in the Indian and Polynesian types. But if we pass northward from Mongolia into northern Siberia to Eskimo territory, we find an exaggeration of all the Mongolian traits. If we pass westward, from the center of greatest purity, we soon reach a zone where the nose, eyes, cheeks, chin and skin assume the Aryan type. Keith sees only one way of explaining these facts: the pure Mongolian type must be a recent modification of an old one, still preserved among American Indians and Polynesians. Among Caucasoid peoples an opposite endocrine balance tends to prevail, one which emphasizes the nose, the eyebrow ridges, the form of the jaws and the growth of the beard. Hence the frontier between these two types is usually sharply marked.

The aboriginals of Australia (Huxley's fourth center) have retained more than any other peoples now living the features of primitive man. Evolutionary change has left them little affected, while it has wrought a transformation in the three other centers of the world.

THE DISTRIBUTION OF RACES

Each main type has a definite area of distribution or homeland. Conditions have induced men to cling to their native places and to remain in proximity to people of like origin. The chief racial types of today were probably evolved under such conditions as those which may still be studied among the

aborigines of Australia. Each tribe is confined to a sharply demarcated hunting territory; if it passes beyond this it encroaches on the hunting rights of neighboring tribes and will have to fight or retreat. Intertribal opposition or jealousy isolates a tribe, but still stronger forces (speech, customs, beliefs, kinship and interests) bind it to its native territory. Tribal organization provides the isolation which is necessary if physiologic processes are to work toward a new racial type.. Traces of a former tribal organization are to be found in all parts of the world. The brain of man was evolved under tribal conditions; its faculties, feelings, emotions and reactions are adapted to serve the needs of tribal organization. Physical barriers have also served to isolate races—mountain chains, such as the Himalayas; deserts, such as the Sahara, and seas, such as the Atlantic. However, under certain conditions the home-loving instinct may be transformed into a migrating impulse, but this must have been always a subsidiary factor in human evolution; otherwise racial types would not be confined to their respective countries. Race feeling lies latent in men and women as long as they move among their own kind, but when they move outside the frontiers of their country instinctive feelings of race prejudice are awakened. Race feeling is part of the evolutionary machinery which safeguards the purity of a race. Human prejudices have usually a biologic significance.

THE EVOLUTION OF INTERMEDIATE RACES

Huxley was inclined to regard races intermediate to his main types as having arisen by interbreeding. But if evolution has been in operation since the dawn of humanity, and is still working, intermediate races should be produced in the course of natural differentiation. There are races in every stage of the evolutionary scale—from a point at which only a small percentage of individuals possess distinctive marking to the complete stage of Huxley's pandiacritic races, in which every individual has undergone racial characterization. We find in the world today all stages of differentiation; hence the clash of opinion among anthropologists as to the number of human races. No doubt interbreeding occurs along racial frontiers, but at most, hybridity is a minor factor in the production of new races and cannot explain the racial state of the world. On the other hand, the theory of evolution does. Any attempt made to classify the races of mankind must be founded on an evolutionary basis. Races must be grouped according to their scale of physical differentiation. There are the fully differentiated races—pandiacritic races—in which every member is recognizable at sight by an expert. There are races in which one can distinguish 90 per cent of its members, and so on down the scale, through macrodiacritic, mesodiacritic and microdiacritic stages to the zero or adiacritic stage.

CIVILIZATION THWARTS NATURE'S PLAN

Almost everywhere tribal boundaries have been swept away and national frontiers have taken their place. The tribal organization of ancient Europe was destroyed by the discovery on which civilization is based—the art of agriculture. The tribes which made this discovery gained an advantage over their hunting neighbors, their numbers multiplied as their food supply increased, and eventually their tribal territory could not contain them and they had to spread. The Caucasoid East appears to be the cradle of civilization, from which wave after wave spread westward across Europe, finally breaking on the British isles. The ancient tribal organization used by nature in the evolution of man was disordered. And yet there was not utter confusion, for we still recognize some order in the racial pattern of Europe—a zone of long headed swarthy peoples in the south, long headed more or less fair people in the north, and in the intervening areas peoples with various types of round heads and various degrees of coloring. The four British nationalities are in the main, varying degrees of mixture of the dark and fair races of Europe.

Medicolegal

Insurance: Disease and Accidental Death

(Cretney v. Woodmen Acc. Co. (Wis.), 219 N. W. 448)

The plaintiff sued on a policy of accident insurance, because of the death of the insured, her husband. Judgment was given in her favor, and the insurer appealed to the supreme court of Wisconsin. The insured was injured, Dec. 27, 1926. An operation was performed, December 29. The appendix, appearing like a tumor, was removed. A growth was found inside the stomach, probably of six or eight months' standing, which could not have developed after the accident. The insured died, December 30. The cause of death was given as "bleeding from the cancerous growth," and the growth itself was assigned as a contributing cause.

Two principal questions were raised on the appeal: first, whether the finding of the jury that death resulted from an injury effected through violent, external and accidental means, entirely independent of all other causes, was sustained by the evidence. Second, whether the testimony of the operating surgeon was properly admitted. The supreme court held that the evidence did not sustain the verdict. While the physicians did not testify that rupture of a blood vessel was ordinarily to be expected under the circumstances disclosed, they testified that the cancerous condition was at least a contributing cause of death. Such testimony left no room for a jury to find that the cancerous condition was not a contributing cause within the meaning of the policy. In the light of the testimony, death could not have been due to the accident, entirely independent of all other causes. This holding, said the court, does not mean that a man must be in perfect physical health in order that there may be a recovery on an accident insurance policy. The insured may be suffering from the effects of age or of disease, and yet he may be the victim of an accident which is the sole cause of his death, even though death might have been less likely had he been in a better physical condition. In the present case, however, the disease itself was a cause of death, at least concurring with the accident to produce that result, and in the opinion of one physician it was the sole cause of death. In the course of the trial, it was sought to waive the privilege of secrecy as to Dr. R., and to maintain it as to Dr. C., both of whom had attended the deceased in his last illness. It would be most unjust and unfair, said the court, to permit patients or their heirs to waive the privilege as to the testimony of a physician favorable to their interest and claim the benefit of it as to one whose views might be unfavorable to them. When consent is given for the disclosure by one physician, the reason for the statute no longer exists. The waiver, then, is a waiver of the whole privilege and not a consent to the introduction of the testimony of designated witnesses. The trial court correctly held that the testimony of both physicians who attended the deceased was admissible.

Judgment was reversed and the cause remanded with instructions to dismiss the complaint.

Spontaneous Fracture of Patella

(Newton v. Industrial Accident Commission of Calif. et al. (Calif.), 267 Pac. 542)

Newton, a minor, aged 20 years, fractured his patella while in the employ of one Brown. From a decision of the State Industrial Accident Commission denying compensation, he, by his guardian ad litem, through an application for a writ of certiorari, brought the case before the supreme court of California. The evidence showed that, Oct. 6, 1926, as Newton was running along the highway, he heard or felt his knee snap. His leg crumpled under him, but he recovered himself without falling. He did not stumble, trip over anything, or step into any depression, to account for the fall. Hospitalization and treatment followed. Dec. 19, 1926, a refracture occurred when Newton stepped into a hole or depression while walking. The attending physician testified that from the fact that there was no bruise, excoriation or contusion at or about the knee joint, he would be led to believe that the fracture was caused spontaneously. He did not believe that there was any extraordinary

strain or trauma or exaggerated movement, but that the fracture occurred as the result of the normal motion of the leg in running. The second fracture, in the opinion of the witness, was not caused by an extraordinary movement, but simply by a misstep. Operative observations after the second fracture showed that it had occurred through the previous fracture line. The state industrial accident commission found that the evidence did not establish that the fracture was caused by an injury or strain arising out of or occurring in the course of Newton's employment. In other words, said the court, the commission found that the injury resulted from an inherent defect in the patella, although the record showed no evidence of any previous diseased condition of the patella or any prior trouble with it. While a layman would naturally infer that the running caused the patella to snap, there was no evidence to that effect. The only testimony was that it occurred while the petitioner was running. The medical or expert testimony was to the effect that there was no extra strain on the patella but that the fracture occurred as a result of the normal motion of the leg in running. Neither a layman nor an expert testified that the injury was not spontaneous.

Tetanus Due to a Burn Compensable

(Johnston v. Payne-Yost Construction Co. et al. (Pa.), 141 Atl. 481)

Johnston, an employee of the Payne-Yost Construction Company, was engaged in burning brush. While so engaged he was burned on the nose. Nine days later, he died of tetanus. His widow claimed compensation. The referee made an award in her favor, and the compensation board affirmed his findings. From a decision of the court of common pleas, adverse to them, the employer and the insurance carrier appealed to the supreme court of Pennsylvania. The supreme court pointed out that the testimony of a medical expert is insufficient to show the connection between an injury and a later ailment, or death, unless the witness says that in his professional opinion the result came from the cause alleged. Such testimony, however, need not be given in any particular words. In the present instance, the physician was asked to say, from his experience as a physician and from what he learned about the case in treating the deceased, what he regarded as the cause of the tetanus which resulted in death. The physician's answer was, "Infection through burn on his nose." This substantially satisfied the evidential requirements of the case. The judgment of the court below was affirmed.

Physician's Testimony as to Patient's Declarations

(Koske v. Delaware, L. & W. R. Co. (N. J.), 142 A. 43)

Koske was injured while in the service of the Delaware, Lackawanna & Western Railroad Company. He obtained a verdict and judgment for $10,000, from which the railroad company appealed to the court of errors and appeals of New Jersey. Among the grounds on which the appeal was based were certain allegations of error in the admission of evidence of a medical expert. In substance, this expert was asked what subjective symptoms were declared to him by the patient. He was permitted to answer and then to express his opinion as to the patient's condition, basing such opinion, in part at least, on the patient's statements. Objection to this testimony was made on the ground that the witness was not the plaintiff's family physician and that the plaintiff did not go to him for treatment but apparently consulted him for examination with a view to subsequent testimony. The admission of such evidence, it was urged, violated the rule laid down in *Consolidated Traction Co.* v. *Lambertson*, 60 N. J. Law, 452, 38 A. 683, that the declarations of a person as to his symptoms made to a physician, not for the purpose of treatment, but for the purpose of leading the physician to form an opinion to which he may testify as a witness for the patient in a suit brought for personal injuries, are not admissible in evidence at the instance of the patient. In that case it was pointed out that the declarations made by a patient to a physician under the circumstances stated lacked credibility beyond that of hearsay, because self-interest becomes a motive for distortion, exaggeration and falsehood. On the other hand, declarations made by a patient seeking treatment possess an incentive beyond the ordinary obligation to tell the truth. But, said the court, where the element requiring the exclusion of the patient's statements is lacking, a different rule prevails. Quoting *State* v. *Gruich*, 96 N. J. Law, 202, 114 A. 547, the court said:

> While the witness, not an expert, can testify only to such exclamations and complaints as indicate present existing pain and suffering, a physician may testify to a statement or narrative given by his patient in relation to his condition, symptoms, sensations, and feelings both past and present. In both cases these declarations are admitted from necessity, because in this way only can the bodily condition of the party, who is the subject of the injury, and who seeks to obtain damages, be ascertained. But the necessity does not extend to declarations by the party as to the cause of the injury, which is the principal subject-matter of inquiry and which may be proved by other evidence.

The witness to whose testimony exception was taken stated in the trial that he was simply asked to examine the plaintiff and report on his condition. When his testimony was objected to, the trial court said: "Under the circumstances, if the doctor says he came as a private patient, and he was asked to make an examination for the purpose of telling what was the matter with him, I will permit the question, and give you an exception," and the witness continued, "That is what he wanted to know." There was no further inquiry as to the purpose of the consultation, the plaintiff himself was not questioned in regard to its purpose, nor was there any affirmative proof of a purpose to obtain the physician's testimony for use at the trial. The objection to the testimony seems to have been based on suspicion rather than on evidence of improper purpose. The admission of the testimony, therefore, was not error.

Physicians' Records as Evidence

(Lebrun v. Boston & M. R. R. (N. H.), 142 A. 128)

Lebrun instituted this suit, claiming that he had been injured in the car shops of the defendant, where he was employed. From an adverse verdict, he appealed to the supreme court of New Hampshire. The injury complained of occurred, Aug. 7, 1917. Lebrun had suffered a previous injury, Nov. 1, 1915, while in the defendant's service. From the results of the earlier accident he released the defendant on settlement, without suit. In the present case, the defendant asserted that the injuries sued for were in whole or in part the result of the earlier accident. To show the nature of the injuries in the earlier accident, the defendant offered in evidence a written report of its surgeon, Dr. S., since deceased, showing the results of his examination on the day the accident occurred. Over the plaintiff's objection, the report was admitted, on the ground that it was a record made in the regular course of business. The plaintiff contended that the report was a self-serving declaration, and therefore inadmissible. The report, said the court, was an entry made contemporaneously with the facts recorded, in the usual course of business and in the performance of a duty by a person since deceased, having means of knowledge. It was therefore admissible. It was immaterial whether the entry was made in the course of the physician's personal business or while he was engaged in the business of another, so long as the relation was not such as to affect the trustworthiness of the statement by demonstrating a motive to misrepresent. The report was not of a self-serving character as respected any issue raised in the case. Statements made in no way promoted the interest of Dr. S. If the report could be treated as a statement of the defendant railroad, it could not be self-serving in the sense that it could be found to have been made for the purpose of creating evidence in its favor on any issue presented in the present case; for the report was made before the happening of the alleged accident on which the present case is predicated and the second accident could not have been in contemplation of the defendant or of the surgeon at the time of the entry in 1915. Its character as a non-self-serving declaration was not changed by the happening of the second accident. The entry in the record by red marks on a diagram, to show the location of the injury, was fully interpreted by the terms of the printed directions to the person making the entry, and the form of the record was therefore not objectionable. Aside from being admissible as an entry made in the usual course of business, it would seem that the report was admissible also as a declaration of a deceased person, having the means of knowledge and without interest to misrepresent, the report being the best evidence available under the circumstances.

Pernicious Anemia, Cancer and Life Insurance

(Hodges v. American Nat. Ins. Co. (Mo.), 6 S. W. (2d) 72)

This suit was based on an insurance policy on the life of Stella J. Hodges. From a verdict and judgment in favor of the plaintiff, the beneficiary under the policy, the defendant, the American National Insurance Company, appealed to the Kansas City court of appeals. The insurer alleged that it was induced to issue the policy by representations that the applicant was in perfect health and had not suffered from any illness during the preceding three years, whereas she was at the time suffering from pernicious anemia, had been operated on for a tumor of the breast and had been in an automobile accident. The insurer asserted that the tumor and the automobile injury contributed to cause the pernicious anemia, from which the insured admittedly died. The appellee, the beneficiary under the policy, replied that certain of the insurer's agents had been fully informed concerning all these matters when the application was made, and that the application was prepared by the insurer's agent and the answers inserted by him in spite of his knowledge of the true facts.

Under the laws of Missouri, said the court of appeals, where the insurer or its duly authorized agent know the true state of the applicant's health when the contract was entered into, the policy will not be voided even though the application stated falsely matters which contributed to or directly caused death. Dr. P., the insurer's examining physician, was a duly authorized agent for the purpose named. The insurer admitted that it had notice of an innocent tumor or adenoma but complained that its medical examiner, Dr. P., was not told that the deceased had suffered from cancer. It would appear, however, that the insurer was not particularly interested in the kind of tumor the insured had, because the first application blank signed by the deceased asked only whether the deceased had suffered from "a tumor," without asking what kind of tumor. It was remarkable that the defendant, having refused the first policy because of the operation for a tumor, had not ascertained the kind of tumor by consulting the operating surgeon. Dr. P., on behalf of the insurer, examined the wound caused by the operation, and the testimony showed that a physician examining a wound could readily discover whether the operation was for the removal of a malignant or a benign tumor. From this it might be inferred that Dr. P. did discover the kind of the tumor from which the applicant suffered. In all the testimony, there was no evidence that the deceased had a cancer when she died. Pernicious anemia was admitted to be the cause of death. There was some testimony concerning secondary anemia, which might be caused by cancer, but there was no evidence that the deceased died of secondary anemia and nothing to show that a patient may not have secondary anemia and at the same time die of pernicious anemia. There was no evidence, unless it was the report of Dr. L., that an operation for cancer could cause pernicious anemia. The insurer suggested no definite theory as to any way in which the operation for cancer had any connection with the disease from which the insured died.

The deceased was insured in July, 1926. In the previous January she was in an automobile accident. No bones were broken or skin bruised, but she was knocked around and jarred some, and made nervous. Her physician called it "neuritis, or something like that." The only testimony, aside from the proofs of death, as to whether this accident contributed to cause the death was the testimony of the insurer's witness, Dr. P., who stated that such an accident could not cause pernicious anemia, but that the nervous reaction brought on from the shock might stir it up. There was testimony tending to show that one may die from pernicious anemia within a few days after it is contracted, which would be called "progressive pernicious anemia, acute type." The insurer insisted that there is a difference between that kind of pernicious anemia and merely "pernicious anemia," but there is nothing in the record to show such a difference. The court concluded that the proofs of death did not necessarily show that the insured, when the policy was issued, July 5, 1926, was suffering from pernicious anemia, from which she died, Dec. 21, 1926. The question whether the deceased was suffering from pernicious anemia on the date when the policy was issued was therefore one for the jury.

Society Proceedings

COMING MEETINGS

American Association for Thoracic Surgery, St. Louis, April 25-27. Dr. Ethan Flagg Butler, Robert Packer Hospital, Sayre, Pa., Secretary.

American Climatological and Clinical Association, Old Point Comfort, Virginia, May 2-4. Dr. A. K. Stone, Auburn Street, Framingham Center, Mass., Secretary.

American Gastro-Enterological Association, Atlantic City, May 6-7. Dr. W. J. Mallory, 1720 Connecticut Ave., N. W., Washington, D. C., Sec'y.

American Gynecological Society, Old Point Comfort, Va., May 20-22. Dr. Floyd E. Keene, 133 South 36th Street, Philadelphia, Secretary.

American Laryngological Association, Atlantic City, May 20-23. Dr. George M. Coates, 1721 Pine Street, Philadelphia, Secretary.

American Neurological Association, Atlantic City, May 27-29. Dr. Henry A. Riley, 870 Madison Avenue, New York, Secretary.

American Ophthalmological Society, Hot Springs, Va., June 10-12. Dr. Emory Hill, 501 East Franklin Street, Richmond, Va., Secretary.

American Otological Society, Atlantic City, May 22-24. Dr. Thomas J. Harris, 104 East 40th Street, New York, Secretary.

American Pediatric Society, St. Louis, May 20-22. Dr. H. C. Carpenter, 1805 Spruce Street, Philadelphia, Secretary.

American Proctologic Society, Detroit, May 13-15. Dr. Walter A. Fansler, LaSalle Building, Minneapolis, Secretary.

American Psychiatric Association, Atlanta, Ga., May, 14-17. Dr. C. O. Cheney, Hudson River State Hospital, Poughkeepsie, N. Y., Secretary.

American Psychopathological Association, Atlanta, Ga., May 17. Dr. Martin W. Peck, 520 Commonwealth Avenue, Boston, Secretary.

American Society for Clinical Investigation, Atlantic City, May 6. Dr. J. T. Wearn, Boston City Hospital, Boston, Secretary.

American Surgical Association, Cleveland, May 2-4. Dr. Lincoln Davis, 205 Beacon Street, Boston, Secretary.

Arkansas Medical Society, Hot Springs, May 7-9. Dr. W. R. Bathurst, 810 Boyle Building, Little Rock, Secretary.

Association of American Physicians, Atlantic City, May 7-8. Dr. J. H. Means, Massachusetts General Hospital, Boston, Secretary.

California Medical Association, San Diego, May 6-9. Dr. Emma W. Pope, 593 Market Street, San Francisco, Secretary.

Connecticut State Medical Society, Waterbury, May 22-23. Dr. C. W. Comfort, Jr., 27 Elm Street, New Haven, Secretary.

District of Columbia, Medical Society of, Washington, D. C., May 1. Dr. C. B. Conklin, 1718 M Street, N. W., Washington, D. C., Sec'y.

Georgia, Medical Association of, Macon, May 8-10. Dr. Allen H. Bunce, 139 Forrest Avenue, N. E., Atlanta, Secretary.

Illinois State Medical Society, Peoria, May 21-23. Dr. Harold M. Camp, Lahl Building, Monmouth, Secretary.

Iowa State Medical Society, Des Moines, May 8-10. Dr. Tom B. Throckmorton, Bankers Trust Building, Des Moines, Secretary.

Kansas Medical Society, Salina, May 7-9. Dr. J. F. Hassig, 804 Huron Building, Kansas City, Secretary.

Maryland, Medical and Chirurgical Faculty of, Baltimore, April 23-25. Dr. John T. King, Jr., 1211 Cathedral Street, Baltimore, Secretary.

Massachusetts Medical Society, Boston, June 10-12. Dr. Walter L. Burrage, 182 Walnut Street., Brookline, Secretary.

Minnesota State Medical Association, St. Paul, May 13-15. Dr. E. A. Meyerding, 11 W. Summit Avenue, St. Paul, Secretary.

Mississippi State Medical Association, Gulfport, May 14-16. Dr. T. M. Dye, Box 295, Clarksdale, Miss., Secretary.

Missouri State Medical Association, Springfield, May 13-16. Dr. E. J. Goodwin, 901 Missouri Building, St. Louis, Secretary.

National Tuberculosis Association, Atlantic City, May 27-30. Dr. C. J. Hatfield, Henry Phipps Institute, Philadelphia, Secretary.

Nebraska State Medical Association, Omaha, May 14-16. Dr. R. B. Adams, Center McKinley Building, Lincoln, Secretary.

New Hampshire Medical Society, Manchester, May 28-29. Dr. D. E. Sullivan, 7 North State Street, Concord, Secretary.

New Jersey, Medical Society of, Atlantic City, June 12-15. Dr. J. B. Morrison, 66 Milford Avenue, Newark, Secretary.

New Mexico Medical Society, Taos, June 12-14. Dr. L. B. Cohenour, 219 West Central Avenue, Albuquerque, Secretary.

New York, Medical Society of the State of, Utica, June 3-6. Dr. D. S. Dougherty, 2 East 103d Street, New York, Secretary.

New York State Association of Public Health Laboratories, Utica, June 3. Mr. M. B. Kirkbride, New Scotland Avenue, Albany, Secretary.

North Carolina, Medical Society of the State of, Greensboro, April 22-24. Dr. L. B. McBrayer, Southern Pines, Secretary.

North Dakota State Medical Association, Fargo, June 6-7. Dr. J. G. Lamont, San Haven, Secretary.

Ohio State Medical Association, Cleveland, May 7-9. Mr. Don K. Martin, 131 East State Street, Columbus, Executive Secretary.

Oklahoma State Medical Association, Oklahoma City, May 27-29. Dr. C. A. Thompson, Barnes Building, Muskogee, Secretary.

Oregon State Medical Society, La Grande, May 16-18. Dr. F. D. Stricker, Medical Arts Building, Portland, Secretary.

Rhode Island Medical Society, Providence, June 6. Dr. J. W. Leech, 369 Broad Street, Providence, Secretary.

Society for the Study of Asthma and Allied Conditions, Atlantic City, May 4. Dr. W. C. Spain, 20 East 36th Street, New York, Secretary.

Society of Neurological Surgeons, Montreal, Canada, June 3-5. Dr. Francis C. Grant, 133 South 36th Street, Philadelphia, Secretary.

South Carolina Medical Association, Charleston, May 7-9. Dr. E. A. Hines, Seneca, Secretary.

South Dakota State Medical Association, Mitchell, May 7-9. Dr. John F. D. Cook, Langford, Secretary.

Texas, State Medical Association of, Brownsville, May 21-23. Dr. Holman Taylor, Medical Arts Building, Fort Worth, Secretary.

West Virginia State Medical Association, Martinsburg, May 21-23. Mr. Joe W. Savage, 303 Professional Building, Charleston, Executive Sec'y.

Current Medical Literature

AMERICAN

The Association library lends periodicals to Fellows of the Association and to individual subscribers to THE JOURNAL in continental United States and Canada for a period of three days. Issues of periodicals are kept on file for a period of five years only. Requests for issues of earlier date cannot be filled. Requests should be accompanied by stamps to cover postage (6 cents if one and 12 cents if two periodicals are requested). Periodicals published by the American Medical Association are not available for lending, but may be supplied on purchase order. Reprints as a rule are the property of authors and can be obtained for permanent possession only from them.

Titles marked with an asterisk (*) are abstracted below.

American Heart Journal, St. Louis

4: 251-376 (Feb.) 1929

Economic Aspects of Heart Disease. H. Emerson, New York.—p. 251.
*Experimental Pericarditis. G. Herrmann and J. H. Musser, New Orleans.—p. 268.
Heart Block Showing Multiple Transitions Associated with Convulsive Syncope. W. M. Yater, Washington, D. C., and F. A. Willius, Rochester, Minn.—p. 280.
*Distortion of Electrocardiogram by Artefacts. J. W. Esler, Washington, D. C., and P. D. White, Boston.—p. 296.
*Heart Murmurs. J. H. Gibbes, Columbia, S. C.—p. 305.
Classification of Heart Diseases: V. Heart Disease Among Exservice Men. P. B. Matz, Washington, D. C.—p. 313.
*Electrocardiographic Studies on Actions of Drugs: I. Vagus in Ether Anesthesia. H. Gold, New York.—p. 336.
Effect of Obstruction of Coronary Arteries on T Wave of Electrocardiogram. H. L. Otto, New York.—p. 346.
*Myxedema Heart: Two Cases. J. E. Holzman, New York.—p. 351.

Experimental Pericarditis.—Herrmann and Musser have been able experimentally to reproduce at will in dogs the various types of chronic fibrous pericarditis which are encountered clinically. The animals with chronic adherent pericarditis did not present any pathognomonic clinical signs, except perhaps the localized systolic tugging in instances in which the parietal pericardium had been anchored to the intercostal muscles. Electrocardiographic evidence of fixation of the electrical axis was not uniformly present. This, however, may have been due in part to peculiarities of the mediastinum and the midline suspension position of the heart in the dog. After the production of an obliterative pericarditis, fluoroscopic studies revealed a rather striking change in the character and movements of the left heart border, especially in the region of the auriculoventricular junction. A graphic record of this changed movement may be of some diagnostic significance. The greatest degree of cardiac hypertrophy was found in the group in which chronic mediastinal and parietal adhesions as well as adhesive pericarditis were present. The tugging of the heart bound by fibrous bands from the firm structures of the chest is apparently most conducive to hypertrophy. The dogs with partial obliteration of the pericardial and mediastinal and parietal adhesions showed the second greatest degree of hypertrophy. Complete synechia of the pericardium with slight or with no mediastinal fibrosis showed hypertrophy but of less degree than the other types of chronic mediastinopericarditis. The feasibility of digital separation of pericardial adhesions and the prevention of the reformation of adhesions have been proved, and clinical and pathologic evidences of benefit in the experimental animal have been noted.

Distortion of Electrocardiogram by Artefacts.—The electrocardiogram may be distorted by artefacts, especially since the widespread use of the galvanometer in clinical work. Esler and White discuss briefly the more important of these artefacts that have come to their notice in the past thirteen years, and divide them into two groups, according to whether they are of intrinsic or extrinsic origin. Artefacts of intrinsic nature may arise from single contractions or movements of skeletal muscles, from repeated contractions of such muscles, as in a tic, from paralysis agitans, and finally from the tension of muscles constantly in contraction (called somatic tremor), as in nervous or hyperthyroid persons. The high resistance of the subject or of the instrument itself may also give rise to artefacts due to the inertia of a loosened string. Artefacts of extrinsic origin include those due to high resistance, polarization of electrodes, outside current, faulty contacts, reversed leads, composite electrocardiograms, and errors in photography or in the manipulation of the time marker.

Incidence and Interpretation of Heart Murmurs.—In 1,166 consecutive cases, 127 accidental heart murmurs were discovered by Gibbes, while thirty-nine, or 3.3 per cent of the cases, showed murmurs indicative of organic valvular disease. All of the accidental murmurs were systolic in time, and 84 per cent of them were heard at the base of the heart. Transmission of accidental murmurs is relatively rare. Nine and four-tenths per cent of the murmurs so classified were transmitted to the axilla, and only 0.8 per cent upward from the base. Cardiac hypertrophy was encountered in association with accidental murmurs in 8.6 per cent of the cases, but in every instance it was possible to account for the hypertrophy independently of the murmur. Cardiac hypertrophy is a necessary part of organic valvular disease. Accentuation of the pulmonic second sound is heard in connection with accidental murmurs of the inorganic type, but is not to be expected with other types of these murmurs. Gibbes feels that other evidence than that afforded by a murmur must be found before a heart is assumed to be diseased.

Electrocardiographic Studies on Actions of Drugs.—Experiments were performed by Gold in the dog to study the effects of ether on the susceptibility of the cardio-inhibitory nerves to stimulation by morphine. The results show that ether depresses the vagus and may abolish partially or completely the effects of stimulation of these nerves by morphine. After large doses of morphine, deep ether narcosis may abolish vagus effects on the sinus but not those on conduction. Ether by inhalation, in doses that do not paralyze respiration, depresses but does not completely paralyze the vagi. Atropine is still effective after the full effects of ether have been induced.

Myxedema Heart.—A case is reported by Holzman of a man, aged 58, who presented the typical signs and symptoms of thyroid insufficiency. In this case the teleroentgenogram showed an enlargement of the right and left ventricles. The basal metabolism rate was minus 20 per cent. The electrocardiogram revealed a low voltage in all three leads, a left ventricular preponderance, and a notching and prolongation of the Q-R-S complexes in all leads. After treatment with thyroid substance there was clinical improvement in the myxedema, but no demonstrable changes were observed either in the roentgen outline of the heart or in the electrocardiograms. The second case reported is that of a man, aged 26, whose basal metabolism rate was minus 18 per cent. The electrocardiogram was not characteristic in this case. Holzman believes that there are probably two groups of cases of myxedema heart: those which respond to thyroid therapy, and those in which a long standing myxedema and other factors produce permanent changes in the myocardium which do not permit of a response to thyroid medication.

American J. Obstet. & Gynecology, St. Louis

17: 151-296 (Feb.) 1929

*Relation of Ectopic Gestation to Associated Uterine Changes and Vaginal Bleeding. S. H. Geist and M. R. Matus, New York.—p. 151.
*Early Diagnosis and Prevention of Carcinoma of Cervix. F. A. Pemberton and G. van S. Smith, Boston.—p. 165.
*Roentgenographic Study of Placental Infarcts. H. Thoms, New Haven, Conn.—p. 176.
*Diagnosis of Early Pregnancy Through Detection of Female Sex Hormone in Urine. C. Mazer and J. Hoffman, Philadelphia.—p. 186.
Myoma, Sarcoma and Carcinoma Developing in Same Uterus: Case. Q. U. Newell, St. Louis.—p. 191.
Episiotomy with Modified Operative Technic. W. J. Blevins, Woodland, Calif.—p. 197.
Rhythmic Variations in Vascularity of Uterus of Guinea-Pig During Estrous Cycle. J. E. Markee, Chicago.—p. 205.
Progress of Teaching and Practice in Gynecology During Last Four Decades. B. C. Hirst, Philadelphia.—p. 209.
Postpartum Bladder Complications. G. C. Prather, Boston.—p. 215.
Protein Therapy in Gynecology. G. F. Hibbert, Chicago.—p. 227.
*Interposition Operation for Prolapse of Uterus. J. L. Baer and R. A. Reis, Chicago.—p. 233.
Carcinoma of Fundus of Uterus Following Watkins' Interposition Operation: Case. A. Corvese, Providence, R. I.—p. 239.
*Severe Toxemia of Pregnancy with Jaundice. I. F. Stein and M. L. Leventhal, Chicago.—p. 244.
*Carcinoma of Ovary After Menopause Associated with Recurrence of Uterine Bleeding. A. Strauss, Cleveland.—p. 248.
Experiences in Management of Pregnancy Complicated by Heart Disease. H. E. B. Pardee, New York.—p. 255.
Modification of Classic Forceps and Application. S. Seides, New York.—p. 262.
New Device (Knife Protector) for Performing Median Episiotomy. W. A. Michael, Peoria, Ill.—p. 265.

Relation of Ectopic Gestation to Uterine Changes and Vaginal Bleeding.—From an analysis of their observations, Geist and Matus conclude that the occurrence of bleeding in ectopic gestations may be attributed to a variety of causes. Analogous to the number of normal pregnancies which are terminated by abortions are the ectopic pregnancies in which patients, thinking themselves normally pregnant, cause vaginal bleeding by methods to induce abortion. There are many normal intra-uterine pregnancies in which bleeding or spotting occurs, especially in the early months, and which nevertheless progress to term. Some of the bleeding in the ectopic pregnancies may be of this nature. The authors consider spotting a symptom of far less import than bleeding as an indication of ovular injury. Of ten patients giving a history of spotting, seven had decidua in the uterus; one had no decidua, and two expelled casts. The spotting in these cases was probably caused by uterine contractions initiated by efforts of the tube to expel its contents. The authors say that the spotting was evidence of tubal and uterine contraction but not of ovular death. They feel that bleeding, however, accompanies or precedes the casting off of the decidua and is initiated by actual death of chorionic tissue. This casting off of decidua may be in toto or gradual.

Early Diagnosis and Prevention of Carcinoma of Cervix.—Of 669 cases of carcinoma of the cervix reported by Pemberton and Smith, 2.39 per cent were diagnosed on the basis of microscopic examination, the gross observations being inadequate for a diagnosis. They feel that there should be no hesitation about excision of cervical specimens for biopsy. In this series no harm is known to have come to a patient from the procedure, and it was a life-saving measure in ten of the sixteen cases of early cervical carcinoma. The other six carcinomas were found by routine microscopic examination of trachelorrhaphy specimens. That only five out of 3,814 patients on whom trachelorrhaphy was performed, none of 1,408 whose cervices were cauterized, and none of 740 whose cervices were amputated are known to have developed carcinoma, suggests that treatment of diseased cervices may be a prophylactic measure as regards the incidence of cancer. That only twelve out of 669 patients with carcinoma of the cervix had had trachelorrhaphy and that none had had cauterization or amputation also suggests the prophylactic value of careful cervical treatment. Long continued observation of patients whose cervical specimens were microscopically suggestive failed to disclose the development of carcinoma in any instance. Although in the very rare case it cannot be decided microscopically whether or not cancer is present, in the majority of cases the decision may be made quite definitely.

Roentgenographic Study of Placental Infarcts.—In a study made by Thoms of fifty-eight placentas injected with barium sulphate and roentgenographed, ten placentas, or 17 per cent, were found infarcted to a degree which actually interfered with the placental circulation. In one case, 24 per cent of the placental circulation was thus arrested by the process; yet there was no evidence of maternal toxemia or of ill effect on the baby. The frequency of marginal infarcts and of infarcts on the fetal surfaces at the entrance of the cord is noteworthy.

Early Pregnancy Diagnosed Through Detection of Female Sex Hormone in Urine.—Employing the method of Frank and Goldberger, Mazer and Hoffman examined the blood of a large number of women during the different menstrual phases and various stages of pregnancy They subscribe to the accuracy of the observations made by the former investigators.

Interposition Operation for Prolapse of Uterus.—Baer and Reis present an analysis of ninety-one consecutive interposition operations for prolapse of the uterus. Of the patients who were subsequently examined from five months to seven years after operation, 92 per cent were cured. There was one death, a mortality of 1.1 per cent. The operation is selected for those patients with a large cystocele, and a corpus uteri neither too small nor too large, freely movable and without gross adnexal disease. Cervical amputation or repair is essential in the presence of elongation or disease. A well reconstructed perineal body is most important for the success of this procedure.

Severe Toxemia of Pregnancy with Jaundice.—The patient reported on by Stein and Leventhal was twenty-six weeks pregnant. A beginning liver atrophy was present. The liver atrophy caused a destruction of polygonal cells; hence, the bile pigment could not pass through into the bile capillaries and was therefore immediately absorbed into the circulation. The test showed an immediate positive reaction with the indirect test and, since some passed through the remaining healthy polygonal cells, a faint positive reaction with the direct van den Bergh test. The authors emphasize that jaundice in liver atrophy is not directly due to necrosis and absorption per se, but rather to a functional disturbance in which the liver cells are not able to transfer the pigment which is normally present. When the patient had recovered clinically, with a return of the icteric index to 15, the direct van den Bergh was negative for bile, while the indirect showed a faint immediate positive reaction. This would indicate that regeneration of the liver parenchyma had reached a degree sufficient for the polygonal cells to transfer the bilirubin into the proper bile canaliculi.

Carcinoma of Ovary After Menopause with Uterine Bleeding.—Strauss stresses the fact that when carcinoma of the ovary originates after the menopause, it may be accompanied by uterine bleeding and rarely may not show any other sign. Therefore, postclimacteric uterine bleeding, without apparent cause, must be regarded as suggestive of ovarian malignancy.

Archives of Dermatology & Syphilology, Chicago

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*Fate of Intragluteal Injections. L. W. Shaffer, Detroit.—p. 347.
Etiology of Alopecia Areata: Effect of Experimental Nerve Injuries. C. S. Wright, Philadelphia.—p. 365.
Tularemia. H. E. Miller and L. R. Taussig, San Francisco.—p. 378.
*Acanthosis Nigricans. F. C. Knowles, D. M. Sidlick and J. B. Ludy, Philadelphia.—p. 391.
*Tinea of Scalp. V. Pardo-Castello, J. J. Mestre and E. Rio, Havana, Cuba.—p. 409.
Dermatitis Exfoliativa Neonatorum (Ritter's Disease). W. H. Guy and M. Cohen, Pittsburgh.—p. 425.
*Hinton Glycerol-Cholesterol Precipitation Reaction in Syphilis. C. M. Smith, Boston.—p. 439.
Antoine Deidier: Precursor of Schaudinn and Hoffmann. B. B. Beeson, Chicago.—p. 449.
Treatment for Pemphigus: Iron Cacodylate and Coagulin. R. H. Davis, St. Louis.—p. 451.
*Ultraviolet Light. C. G. Lane and E. M. Rockwood, Boston.—p. 459.

Fate of Intragluteal Injections.—Shaffer says that injections into the lower central portion of the buttock endanger the greater sciatic nerve, if they extend through the gluteus maximus muscle. The more common and temporary sciatic-like pain extending down the back of the thigh is probably produced by irritation of the small sciatic nerve which lies immediately over the great sciatic nerve in this area. Any injection deposited within the space between the gluteus medius and maximus muscles may spread to produce irritation of this nerve. Injections made deeply into the gluteus medius or minimus muscles are not well tolerated. Roentgenograms taken at intervals up to one week after injections of iodized oil and bismuth salicylate fail to show dispersion of the fluid after the first few minutes. These roentgenograms show that such injections have a curved linear distribution when injected within the gluteus maximus, being closely confined to the coarse fasciculi into which this muscle is divided. Injections of a suspension of metallic bismuth in isotonic dextrose solution gave excellent results in the roentgenograms and showed the same or even a more sharply confined linear distribution. Fluoroscopic study showed that oily suspensions spread rather slowly in from one to five minutes, depending on their viscosity, but that aqueous suspensions disperse to their final confines almost at once. Leakage backward along the needle track with subcutaneous nodule formation can be prevented readily by using a small needle; by pulling the skin and subcutaneous fat to one side prior to injection; by making the injection well within the gluteus maximus; by leaving the needle in place a few moments on completion of injection, and by applying pressure with a cotton pledget immediately on its withdrawal. Any injection deposited within the gluteus maximus muscle will rupture to and follow the nearest fascial septum. Such injections are therefore fascial as well as intramuscular. Injections of oily substances should be given intragluteally, since this method

favors both dispersion and absorption. In contrast, however, it is probable that aqueous solutions and suspensions disperse widely when deposited on the superficial fascia (epifascial).

Acanthosis Nigricans.—Knowles et al. are of the belief that the juvenile type of acanthosis nigricans is of tuberculous causation (probably a retroperitoneal extension to the suprarenal cortex by way of the lymphatics or invasion through the blood stream).

Treatment for Tinea of Scalp.—The treatment for tinea of the scalp in children by the administration of the protoxide of thallium acetate has given good results in the experience of Pardo-Castello et al. Thirty-two patients were treated by the oral administration of from 7 to 8 mg. per kilogram of body weight. Thirty-one were apparently cured. In one case, the disease recurred because of the early reposition of hair before the infected hair had been completely eliminated. In this case, the child had disappeared from observation for three months. Seven milligrams of the drug per kilogram of weight are sufficient to produce a complete alopecia in about twenty-one days. A few children presented slight symptoms of intolerance, such as diarrhea, sialorrhea and pains in the legs. A severe reaction did not occur in any case. Changes in the hair, which consisted of deformities such as hairs the shape of an exclamation point, hooking of the hair bulb and alternately thinned hair, were noted several days after the administration of thallium. These changes are similar to those found in alopecia areata. These trophic changes in the hair may be of some importance in the etiology of alopecia areata. The authors believe that alopecia produced by thallium amounts to the experimental production of alopecia areata in man. Thallium acetate produces a temporary arrest of the trophic action of the endocrine glands, probably the thyroid, on the growth of hair. Epilation by means of the administration of thallium acetate compares favorably with epilation produced by roentgen rays. However, in effecting depilation of the scalp with thallium one is using a dangerous drug which, the authors believe, acts by producing disturbance of the glands of internal secretion. The effects seem temporary, but it remains to be demonstrated whether any permanent injury is inflicted on the endocrine sympathetic system. In spite of the simplicity of thallium therapy, roentgen depilation is still the method of choice in the treatment of tinea of the scalp.

Hinton Glycerol-Cholesterol Precipitation Reaction in Syphilis.—Wassermann, Hinton and Kahn tests were carried out by Smith in 176 patients. The Hinton test missed eleven cases, all cases of old syphilis. Some of these reactions were obtained in the early days of the test and were undoubtedly technical errors. There were three "doubtful" reactions reported in cases in which the patients did not show any clinical evidence of syphilis. There was apparently one false positive Wassermann and Kahn reaction. The Kahn test missed fourteen cases and the Wassermann missed twenty-four cases detected by one or both of the other tests. In 176 cases a Hinton and a Kahn test were done. In 131, or 74.43 per cent, the results agreed. In the same group, there were 17.61 per cent Wassermann positive reactions; 40.34 per cent Hinton positive reactions, and 24.43 per cent Kahn positive reactions. In cases of early syphilis, the results of the three tests are practically the same. The superiority of the Hinton test over the others is in the group of treated patients with late, latent and neurosyphilis. In 195 cases of pregnancy there were no positive reactions of the blood with either the Wassermann or the Hinton test. This was in entire accord with the history and clinical observations. Other series of cases gave similar results. As a rule, the Hinton reaction gives a smaller number of so-called doubtful readings. The incidence of false positive reactions is reduced. Another point in favor of the Hinton test is that it is possible to work with anticomplementary and somewhat hemolyzed blood. This fact is often of great value to the clinician. It requires far less training to be able to read results of the Hinton test than those of either the Kahn or the Wassermann test. It is applicable to spinal fluid as well as to blood serum. It is apparently more nearly a specific test for syphilis than the others.

Ultraviolet Rays.—Further evidence is presented by Lane and Rockwood of the great variation in the reaction of the skin to ultraviolet rays and of the fact that the term "erthyema dose" means little. The lithopone test satisfactorily measures the comparative efficiency of various ultraviolet lamps, and checks the efficiency of a given lamp from time to time: (1) It furnishes a transferable unit of measurement, and (2) it suggests the need of having a lamp "build up" for about twenty minutes and of bearing in mind the size of the opening used. The difficulties of matching colors are a handicap, and the value of the test will depend on the wide distribution of a satisfactorily stable product.

Archives of Ophthalmology, Chicago

1: 159-306 (Feb.) 1929

Nutrition of Lens and Vitreous. H. Smith, Sidcup, Kent, England.—p. 159.
Cyst of Uveal Layer of Iris at Pupillary Margin: Case of Posterior Synechiae with Secondary Glaucoma. W. H. Wilmer, Baltimore.—p. 162.
Meningiomas Arising from Tuberculum Sellae: With Syndrome of Primary Optic Atrophy and Bitemporal Field Defects Combined with Normal Sella Turcica in Middle Aged Person. H. Cushing and L. Eisenhardt, Boston.—p. 168.
Interstitial Keratitis with Marked Chorioretinitis: Pathologic-Anatomic Examination of Case. W. P. Ling, Peking, China.—p. 207.
Disklike Degeneration of Macula: Microscopic Report of Tumor-Like Mass in Macular Region. T. B. Holloway, Philadelphia and F. H. Verhoeff, Boston.—p. 219.
Regeneration of Aqueous Humor. P. C. Kronfeld, Vienna, Austria.—p. 231.

Archives of Physical Therapy, X-Ray, Radium, Omaha

10: 45-91 (Feb.) 1929

Zinc Ionization in Relation to Chronic Otorrhea. A. R. Friel, London.—p. 45.
Transmission of Ultraviolet Rays Through Human Skin. A. Bachem and J. Kunz, Urbana, Ill.—p. 50.
Cancer Problem: Critical Review of Therapeutic Methods. G. M. Blech, Chicago.—p. 59.
Philosophy of Physical Therapy. J. C. Elsom, Madison, Wis.—p. 70.

Arkansas M. Society Journal, Little Rock

25: 163-174 (Feb.) 1929.

Synergistic Anesthesia in Obstetrics. C. B. Billingsley, Fort Smith.—p. 163.
Abdominal Aneurysm: Case. G. Hastings and F. O. Mahony, El Dorado.—p. 165.
Dentist a Necessary Blessing. J. H. McCurry, Cash.—p. 166.

Canadian M. Assoc. Journal, Montreal

20: 111-232 (Feb.) 1929

Aspects of Preventive Medicine. J. G. FitzGerald, Toronto.—p. 111.
Abdominal Surgery and General Practitioner. F. H. Lahey, Boston.—p. 121.
Subacute and Chronic Nephritis: Etiology and Pathology. W. L. Robinson, Toronto.—p. 128.
Id.: Symptomatology and Course. H. S. Hutchison, Toronto.—p. 133.
Id.: Diagnosis, Prognosis and Treatment. W. R. Campbell, Toronto.—p. 137.
Id.: Discussion. D. Graham, Toronto.—p. 144.
Diathermy. L. E. Pariseau, Montreal.—p. 146.
Prevention of Gallstones. E. S. Ryerson, Toronto.—p. 152.
*Results with Birkhaug's Rheumatic Toxin. A. P. Hart, Toronto.—p. 159.
*Banana as Food for Healthy Infants and Young Children. J. B. Scriver and S. G. Ross, Montreal.—p. 162.
Streptococcus Mucosus Otitis. I. R. Vaile, Toronto.—p. 166.
*Removal of Primary Carcinoma of Liver. E. S. Hicks, Brantford.—p. 169.
*Chronic Diffuse Nephritis in Three Year Old Child. F. H. Boone, Hamilton.—p. 170.
*Case of Intussusception. D. Swartz, Salvador, Sask.—p. 172.
Facts About Canadian Medical Association. T. C. Routley, Toronto.—p. 173.
Hereditary Peculiarities of Kinesthetic Sense. M. T. Macklin, London, Ont.—p. 177.

Results with Birkhaug's Rheumatic Toxin.—Hart reports his studies of skin reactions with the toxic filtrate produced by a non-methemoglobin-forming streptococcus isolated by Birkhaug from rheumatic fever in 100 cases of rheumatism in children. He divided his patients into two groups: one having a strong family history of rheumatism and a history of rheumatism or chorea in the child, with or without heart involvement; and one without a family history, but with the history in the child as in the first group. Apparently, the family history has little relation to the reactions. The percentage of positive reactions in children having a definite history of rheumatism and involvement of the heart was 36.6. On going very carefully again through the histories in these

cases (thirty), Hart found that twelve of the patients who reacted negatively had been receiving large doses of salicylates, and these, by the way, included a fairly large percentage who had been tested in the wards, and seven who had had the infection more than three years previously, without suggestion of any rheumatic recurrence since. A large percentage of positive reactions was obtained in patients who had had chorea. It would seem that there is some relationship between the hypersensitive state of the skin and either the susceptibility to this infection or the fact of having had rheumatic infection, as shown by the Birkhaug test. At present it is not clear whether this is purely an allergic phenomenon, as in the tuberculin test, or whether it indicates susceptibility, as do the Schick and Dick tests.

Use of Banana as Food for Healthy Infants and Young Children.—Scriver and Ross report their study on the value of the banana as a food for infants up to 2 years of age, one phase only of the subject being considered; namely, its use as a food for healthy infants over a long period of time. Banana was substituted for certain articles of diet which included sugar, potato and cereal (farina). These foods are for practical purpose carbohydrate foods containing small amounts of protein and traces of fat. They were fed in equivalent caloric amounts; 1 ounce by weight of banana pulp was used in place of one-fourth ounce of sugar, 1 ounce of potato or 2 fluid ounces of farina (made up from 1 ounce dry weight in 8 ounces of water and after cooking made up to the original volume). The bananas were carefully selected and used only when ripened. The fruit was kept at room temperature, not in a refrigerator room, and was considered ready for use when brown spots appeared on the skin and there was complete absence of any green on the skin, even at the tip. Ripened in this way and to this degree, the starch of the banana is practically all converted into sugar. In the case of infants of from 3 to 6 months, the banana was mashed finely, beaten, and incorporated as an emulsion in the milk formula. In the diets of the older infants in which banana replaced cereal or potato, it was mashed up finely and fed as such. Infants fed on banana as a substitute for these foods take it well, digest it satisfactorily and show no change in the character of the stools. Their gain in weight over a period of weeks is roughly equal to the gain made by those on the control diet. The ripe banana thus provides a useful substitute for other foods of its class in healthy infants.

Removal of Primary Carcinoma of Liver.—The tumor in Hicks' case was the size of an orange, originating from the left side of the liver. A band of cirrhosis, 2 inches wide, was present, running backward through the mesial side of the left lobe. From and in this cirrhotic band the tumor arose. A careful abdominal examination did not reveal any other lesion. The growth was excised by sharp dissection, the cut surface being sewed as cut with an interlocking double catgut suture, drawn as tightly as possible without causing cutting. Three or four vessels required separate ligation. A rubber glove was spread out over the raw surface for tamponage and drainage. The usual abdominal closure followed. All the drain was out by the fourth day, and the patient left the hospital in thirteen days. The inspection of the gross specimen showed an encapsulated tumor with some central degeneration. Microscopically the tumor proved to be a carcinoma . The patient did well for three months. Then he showed slight icterus, but his appetite was good and there was no pain. Two months later he had some pain requiring anodynes and had an occasional hematemesis. He died six months after the operation.

Chronic Diffuse Nephritis in Three Year Old Child.—The outstanding features in Boone's case were: the difficulty in feeding, present at 8½ months of age and persisting until death; polydipsia; polyuria; failure in development, both mentally and physically; high blood pressure; secondary anemia; consistent pathologic changes in the urine, and death in the uremic state. At necropsy, small contracted kidneys and hypertrophy of the heart were found.

Intussusception.—Symptoms of acute intestinal obstruction appeared suddenly in Swartz's case. At operation about 1½ feet of the upper part of the jejunum was found intussuscepted into the stomach through the opening of a posterior gastroentero-anastomosis. The intussusception was reduced by pressure from above through the wall of the stomach and careful traction. The intussuscepted part was dilated, thickened, congested and blue. It was treated with hot saline packings until the color became pink and arterial pulsations came through. A fixation stitch was placed on the upper part of the jejunum and abdominal wall to prevent reinvagination. The patient made a good recovery.

Illinois Medical Journal, Oak Park

55: 77-152 (Feb.) 1929

Advisory Medical Board of Health as Adjunct to Health Department in Smaller City. F. S. Needham, Oak Park.—p. 96.
Reactions Resulting from Intranasal Surgery. A. R. Hollender and M. H. Cottle, Chicago.—p. 100.
Neuroblastoma, in Infancy: Case. A. E. McEvers, Rock Island.—p. 107.
Hyperthyroidism in Primary Hyperplastic Adenomatous and Colloid Goiters. H. L. Baker, Chicago.—p. 111.
Diathermy as Employed in Urologic Instances. G. Kolischer, Chicago. —p. 117.
Urging More Radicalism in Surgery of So-Called Benign Adenoma of Thyroid. J. W. Dreyer, Aurora.—p. 119.
Migraine or Sick Headache: Sensory Disturbance Due to Protein Sensitization or Idiosyncrasy. W. L. Beecher, Chicago.—p. 123.
Common Injuries to Finger Tips and Care. M. E. Lichtenstein, Chicago. —p. 125.
Responsibilities of Staff of Community Hospital. G. W. Green, Chicago. —p. 127.
Unusual Lesions of Gastro-Intestinal Tract. A. Arkin, Chicago.—p. 129.
Radium Treatment of Toxic and Exophthalmic Goiter. O. W. Allison, Danville.—p. 133.
Certain Features of Mediastinal Tumor. F. M. Smith, Iowa City.— —p. 135.
Mechanism of Nephritis. W. A. Thomas and E. Andrews, Chicago.— p. 140.

Journal of Infectious Diseases, Chicago

44: 73-168 (Feb.) 1929

Dissociation of Bacillus Anthracis. W. J. Nungester, Ann Arbor, Mich. —p. 73.
Action of Bacteria on Fat: I. Relative Merits of Various Differential Plating Mediums for Lipase-Producing Organisms. R. H. Turner, New Orleans.—p. 126.
Id.: II. Microscopic Study of Emulsion of Oil in Agar Medium. R. H. Turner, New Orleans.—p. 134.
Improved Technic for Comparison of Antiseptics by Yeast Fermentation. S. E. Branham, Rochester, N. Y.—p. 142.
Hypersensitiveness to Diphtheria Bacilli: Different Types of Skin Reactions to Constituents of Diphtheria Culture Filtrate. J. M. Neill, W. L. Fleming and E. L. Gaspari, Nashville, Tenn.—p. 150.
Proteins of Egg White: 2. On Transformation of Crystallized Ovalbumin Into Noncrystallizable Conalbumin. L. Hektoen and A. G. Cole, Chicago.—p. 165.

Journal of Laboratory & Clin. Medicine, St. Louis

14: 393-494 (Feb.) 1929

*New Method for Cultivating Tubercle Bacilli: Comparison with Guinea-Pig Inoculation and Petroff's Method. H. J. Corper and N. Uyei, Denver.—p. 393. Part I.
*Tuberculous Endometritis. H. L. Reinhart and R. A. Moore, Columbus, Ohio.—p. 413.
Chemistry and Cytology of Serous Fluids. A. G. Foord, G. E. Youngberg and V. Wetmore, Buffalo.—p. 417.
*Primary Carcinoma of Fallopian Tubes. E. Scott and M. G. Oliver, Columbus, Ohio.—p. 429.
Interpretation of Borderline Allergic Reactions. W. T. Vaughan, Richmond, Va.—p. 433.
Method for Measuring Bactericidal Action of Whole Blood Against Gram-Positive Cocci. W. Thalhimer and C. Colwell, Milwaukee.— p. 441.
Interpretation of Wassermann Test. B. Markowitz, Chicago.—p. 451.
Preservation of Complement: Practical Study. B. W. Rhamy, Fort Wayne, Ind.—p. 457.
*Sedimentation Time of Blood in Jaundice. N. Rosenthal and M. I. Blowstein, New York.—p. 464.

New Method for Cultivating Tubercle Bacilli.—For the isolation of tubercle bacilli from contaminated tuberculous materials, such as urine, sputum and tissue, Corper and Uyei have found the sulphuric acid-crystal violet-potato cylinder method to be superior to the sodium hydroxide-gentian violet-egg medium method and equal in efficiency to the guinea-pig inoculation test. Small numbers of tubercle bacilli in tissues (dog's liver and rabbit's spleen) are not appreciably affected by the preliminary treatment with an equal volume of 6 per cent sulphuric acid at 37 C. for thirty minutes used to destroy the contaminators nor by planting on the crystal violet-potato cylinder medium, while an equal volume of 3 per cent sodium hydroxide for twenty minutes at 37 C. has a slight detrimental

influence on the tubercle bacilli which is further enhanced by seeding on gentian violet-egg medium as prescribed in Petroff's method. Ground fresh potatoes suffer changes during grinding and exposure to air which make them less suitable in the preparation of glycerol-agar mediums for growing tubercle bacilli than like mediums made from potatoes ground and mixed with the medium after having been autoclaved for thirty minutes at 15 pounds pressure. In the preparation of the crystal violet-potato cylinder medium, the amount of glycerol, from 1 to 5 per cent, in the broth or tap water used has no appreciable influence on the growth of the tubercle bacilli on this medium. It appears from preliminary studies that tap water containing the glycerol can be substituted for the glycerol broth in the preparation of the medium. Likewise it appears that a glycerol-crystal violet-potato-agar medium in which the potatoes were autoclaved before being ground may be substituted for the crystal violet-potato cylinder broth medium used for isolating tubercle bacilli. This is being more exhaustively studied. The glycerol content in this medium, however, needs to be about 2 to 2.5 per cent. If broth is used in the preparation of this medium, it must not be used in excess. The most favorable concentration of crystal violet added to this medium neutralized with sodium carbonate solution is about 0.0003 per cent, whereas with the potato cylinder medium the cylinders are best dipped in 0.0015 per cent dye containing 1 per cent sodium carbonate. The sulphuric acid-crystal violet-potato method for isolating and detecting tubercle bacilli possesses many advantages over guinea-pig inoculation, including the possibility of repeated observations, economy of performance, and availability of a culture, when positive, for determining the type of bacilli present, as well as an added feeling of confidence and certitude in the observations.

Tuberculous Endometritis.—One of the cases reported by Reinhart and Moore appeared to be a subinvolution, with multiple fibroids, of twelve years' duration, and a resulting polypoid endometrium on which subsequently developed a tuberculous infection. The tuberculous process seemed to be of rather recent origin. No evidence of a primary focus was found clinically. The authors believe that the infection of both tubes and endometrium was metastatic, probably from a focus somewhere in the respiratory tract. In a second case the uterus was slightly enlarged, and markedly fibrosed. On cut section the body of the uterus was found dotted with small, definite, discrete, yellow caseous nodules, about 1 mm. in diameter. There were none in the endometrium, which was compressed by the thickening of the wall of the uterus. Microscopic examination revealed a marked fibrosis uteri; the nodules were caseous but definitely encapsulated by the fibrosis of the uterus. There were also small tubercles present of the giant cell type, with many epithelioid cells without encapsulation or caseation. The endometrium was atrophic, and many microscopic sections revealed only one definite tubercle at the junction of endometrium and myometrium. The tubercles in the myometrium were at various stages, some being early and others old, large and caseous. The sequence in this case seems to have been a subinvolution, fibrosis uteri, and tuberculous infection, with extension of the process to other parts of the uterus.

Primary Carcinoma of Fallopian Tubes.—The two cases reported by Scott and Oliver bring the total number reported to 201. The most common clinical symptoms of the disease are vaginal discharge, often bloody, pain in the pelvis, a tumor mass and, late in the disease, constipation and nocturia. The gross appearance of tubal carcinoma is often deceiving and its presence may be entirely overlooked unless careful routine microscopic examinations are made. The microscopic picture is usually that of papillary-alveolar carcinoma.

Sedimentation Time of Blood in Jaundice.—Study of this test in sixty-nine cases of catarrhal jaundice and jaundice with carcinoma, syphilis and cirrhosis of the liver has convinced Rosenthal and Blowstein that the sedimentation time of the blood is not a specific diagnostic or prognostic procedure in diseases accompanied by jaundice. The majority of patients with jaundice show an increased sedimentation rate of the red blood cells. Subnormal or normal variations of the blood cholesterol apparently have no effect on the sedimentation rate, but hypercholesterinemia (over 300 mg.) is accompanied by an increased sedimentation rate. The sedimentation time in most of the cases of carcinoma and cholelithiasis with or without obstruction of the common duct is rapid. A normal sedimentation time in a jaundiced patient (without polycythemia) is suggestive of hepatosis (catarrhal jaundice). In other conditions of the blood and liver accompanied by jaundice, the sedimentation time shows marked variations. These depend on infection, anemia and other unknown factors.

Journal of Pharmacol. & Exper. Therap., Baltimore

35: 99-192 (Feb.) 1929

Effects of Derivatives of Betaine Amide and Choline Ethers on Autonomic Nervous System. R. Hunt and R. R. Renshaw, New York.—p. 99.
Changes in Tonicity of Smooth Muscle Produced by Toxins of Ascaris Lumbricoides. C. A. Herrick and F. E. Emery, Madison, Wis.—p. 129.
Quantitative Measurements on Dilatation of Pial Blood Vessels After Administration of Nitrites in Dogs. C. D. Leake, A. F. Kammer and J. B. Hitz, Madison, Wis.—p. 143.
*Employment of Strontium Thio-Acetate as Antidote in Poisoning by Mercuric Chloride. C. C. Haskell and J. C. Forbes, Richmond, Va.—p. 147.
Relative Physiologic Properties of 5, 5-Dialkyl and 1-Aryl-5, 5-Dialkyl Barbituric Acids. A. M. Hjort and A. W. Dox, Detroit.—p. 155.
Effect of Peptone on Hepatic Veins in Dog. J. P. Simonds and W. W. Brandes, Chicago.—p. 165.
Use of Magnesium as Aid in Anesthesia. I. Neuwirth and G. B. Wallace, New York.—p. 171.
Sterilizing Action of Repeated Fractional Doses of Arsphenamine in Experimental Syphilis. C. Voegtlin, Washington, D. C.—p. 189.

Strontium Thio-Acetate as Antidote to Mercuric Chloride Poisoning.—In their experimental work on dogs, Haskell and Forbes gave intravenous or intravenous and subcutaneous injections of a 10 per cent solution of strontium thio-acetate in distilled water. In dogs that have received large doses of mercuric chloride intravenously, the treatment did not result favorably; indeed, the supposed antidote seems to have shortened the duration of life in every instance. The intravenous injection of 200 mg. of strontium thio-acetate per kilogram in normal dogs caused marked temporary disturbance. The great majority of cases of mercuric chloride poisoning occurring among human beings follow the oral administration of the salt. While it seems quite clearly indicated that strontium thio-acetate is of no value in the treatment of dogs poisoned by the intravenous injection of mercuric chloride, it by no means follows that it is similarly valueless when the poison has been taken by mouth; therefore, experiments were carried out in the attempt to ascertain the influence of strontium thio-acetate therapy in dogs that had received large doses of mercuric chloride orally. The supposed antidote failed signally to exert any favorable influence. The authors feel that a much more thorough investigation of the action of strontium thio-acetate in lower animals is necessary before there is justification for its employment in human beings.

Journal of Urology, Baltimore

21: 145-288 (Feb.) 1929

Renal Tuberculosis. H. Wildbolz, Berne, Switzerland.—p. 145.
Retroperitoneal Angioma. A. Harris, New York.—p. 181.
Congenital Solitary Kidney. R. A. Hennessey, Memphis, Tenn.—p. 193.
Resection of Kidney: Case. A. J. Scholl, Los Angeles.—p. 205.
Carcinoma of Male Urethra. E. M. Watson, Buffalo.—p. 217.
Penile Injuries: Two Cases. W. S. Ehrich, Evansville, Ind.—p. 239.
Control of Hemorrhage Following Suprapubic Prostatectomy by Means of Compression Clamp and Bag with Sound for Introduction of Same. H. G. Greditzer, St. Louis.—p. 253.
Microscopic Anatomy of Kidney. R. K. Lee-Brown and J. W. S. Laidley, Sydney, Australia.—p. 259.
Bladder Hernia: Case. C. S. Levy, Baltimore.—p. 275.
Torsion of Intra-Abdominal Testis. S. Wallenstein, Baltimore.—p. 279.

New England J. Medicine, Boston

200: 417-470 (Feb. 28) 1929

Malignant Undescended Testicle: Case. J. A. Bowen, Cleveland.—p. 418.
Urinary Extravasation: Two Cases. A. Riley, Boston.—p. 420.
Association Between Leukoplakia and Squamous Cell Carcinoma in Upper Urinary Tract. F. S. Patch, Montreal.—p. 423.
Is State's Cancer Program State Medicine? G. H. Bigelow, Boston.—p. 438.
*Outbreak of Typhoid Traced to Chicken Salad Infected by Carrier. H. E. Miner and F. C. Forsbeck, Holyoke, Mass.—p. 440.
Varicose Veins. A. T. Bazin, Montreal.—p. 442.
Recent Progress in Physiology. P. G. Stiles, Boston.—p. 449.

Outbreak of Typhoid Traced to Chicken Salad Infected by Carrier.—About sixty-five persons attended a wedding

breakfast or had food brought home to them. Among these at least twenty-eight developed typhoid during the period from eight to twenty-seven days after the breakfast. Miner and Forsbeck found that the mode of infection was chicken salad, the source a typhoid carrier who assisted in the preparation of the salad.

New York State Journal of Medicine, New York

29: 193-252 (Feb. 15) 1929

Study of Antrum Disease with Aid of Injection of Iodized Oil. G. D. Wolf, New York.—p. 193.
Little Things in Surgery. A. M. Dickinson, Albany.—p. 198.
Active Immunization Against Measles. C. Herrman, New York.—p. 202.
Legal Aspects of Practice of Medicine. L. P. Stryker, New York.—p. 211.

Northwest Medicine, Seattle

28: 49-100 (Feb.) 1929

Recent Advances in Pharmacology. C. A. Dragstedt, Chicago.—p. 49.
Management of Sterility: Sixty-Seven Cases. A. Mathieu and G. C. Schauffler, Portland.—p. 53.
Infections of Female Pelvic Organs. H. Schmitz, Chicago.—p. 65.
*Milk Injections in Treatment of Pelvic Inflammatory Disease. R. E. Watkins, Portland.—p. 70.
*Interstitial Pregnancy: Case. E. G. Braddock and R. T. Scott, Lewiston, Idaho.—p. 72.
Cancer of Cervix Uteri: Value of Biopsy Material for Prognosis and Treatment. K. H. Martzloff, Portland.—p. 74.
Analgesia in Obstetrics by Gwathmey Synergistic Method. C. E. Hunt, Eugene, Ore.—p. 82.

Milk Injections in Treatment of Pelvic Inflammatory Disease.—Watkins reports four cases of pelvic infection, three being gonorrheal, in which the injection of fat free cow's milk into the gluteal region proved effective. He says that the pain and tenderness are more quickly relieved, and the disease disappears more rapidly under this form of treatment. Less surgery will be necessary, if this treatment is used as a routine, since many patients recover entirely without operation. Patients who of necessity have to undergo operative treatment seem to be better surgical risks after they have had milk injections.

Interstitial Pregnancy.—A diagnosis of ruptured ectopic pregnancy was followed by laparotomy in the case reported by Braddock and Scott. When the uterus and tubes were exposed both tubes were found intact, but on the posterior superior surface of the uterus near the right cornu there was a jagged hole about 2 cm. in diameter, extending through the entire thickness of uterine wall, exposing the mucous surface. On closer examination this "blow-out" was seen to have occurred at the inner portion of the interstitial portion of the tube. The fetus was not identified among the mass of blood clots, which were removed as rapidly as possible. The placental remains were removed from the uterus, and the opening in it was closed with three interrupted chromic catgut sutures. The postoperative course was tedious and slow but otherwise uneventful.

Occupational Therapy and Rehabilitation, Baltimore

8: 1-72 (Feb.) 1929

Occupational Therapy. J. C. Doane, San Francisco.—p. 11.
Linoleum Printing in Mental Hospital. E. F. Humphrey, Boston.—p. 17.
Organization of Curative Workshop. E. V. Evans, Milwaukee, Wis.—p. 49.

Oklahoma State M. Assoc. Journal, Muskogee

22: 31-64 (Feb.) 1929

Pelvic Varicocele. A. W. Pigford, Tulsa.—p. 31.
Industrial Surgery. W. F. McAnally, Tulsa.—p. 33.
Visualization of Gallbladder and Roentgen Diagnosis of Gallbladder Condition. M. B. Lhevine, Tulsa.—p. 36.
Deformed Hand. C. von Wedel, Oklahoma City.—p. 38.
Food Allergy, with Special Reference to Eczema, Urticaria, Abdominal Pain and Migraine. R. M. Balyeat, Oklahoma City.—p. 42.
Coronary Thrombosis. M. A. Mortensen, Battle Creek, Mich.—p. 51.

Texas State Journal of Medicine, Fort Worth

24: 673-730 (Feb.) 1929

Lung Abscess Presenting Difficulties in Diagnosis and Treatment: Two Fatal Cases. O. Egbert and W. W. Waite, El Paso.—p. 683.
*New Technic for Removal of Open Safety Pin from Stomach. C. E. Collins, Waco.—p. 686.
*Afebrile Postscarlatinal Nephritis. C. W. Duval, New Orleans.—p. 688.
Treatment of Chronic Arthritis with Autogenous Streptococcus Vaccines. P. M. Keating, San Antonio.—p. 691.
*Treatment of Arthritis with Amiodoxyl. B. F. Smith, Houston.—p. 693.
Liver and Functions. C. H. Mayo, Rochester, Minn.—p. 695.
Goiter Problem After Twelve Years' Experience. J. A. Hill, Houston.—p. 697.
Kummell's Disease: Eight Cases. S. T. Wier, Beaumont.—p. 699.
Endothelial Myeloma: Two Cases. D. Richardson, Austin.—p. 701.
Chronic Frontal Sinusitis. R. A. Duncan, Amarillo.—p. 702.
Tonsillectomy: Preoperative Considerations and Results. H. Donnell, Waxahachie.—p. 705.
Deformities of Nasal Septum and Sequelae. F. D. Boyd, Fort Worth.—p. 709.
Examination of Eyes of Applicants for Railway Service. A. E. Chace, Texarkana, Ark.—p. 712.
Causes of Failures in Tonsillectomies and Adenoidectomies. R. H. T. Mann, Texarkana.—p. 714.

New Technic for Removing Open Safety Pin from Stomach.—The equipment used by Collins consists of a prone fluoroscope and a rubber tube of sufficient length to reach the stomach and large enough to form a channel for the free passage of a pair of long alligator forceps. The forceps were especially designed with a modified Ochsner tip, so that the teeth would not allow the jaws to come completely together, as in the ordinary hemostat, but would hold the jaws far enough apart to permit one to work the heel of the pin between the jaws, under fluoroscopic manipulation, while the biting tip was still closed. With the patient asleep the tube, lubricated inside, is introduced. Through this the alligator forceps are passed to the level of the pin. Under the guidance of fluoroscopic visualization, with the surgeon's right hand controlling the forceps and the left on the patient's abdomen, the pin heel is manipulated into the angle between the jaw. After one is sure that the pin and forceps jaws are in contact, the clamping teeth are opened, the pin is grasped and, while the rubber tube is held above, the pin is engaged below and withdrawn.

Afebrile Postscarlatinal Nephritis.—A comparative study made by Duval of experimental scarlatinal nephritis in the dog with the filtered toxin prepared in vivo shows a complete analogy with afebrile postscarlatinal nephritis in man.

Treatment of Arthritis with Amiodoxyl.—Amiodoxyl (ammonium *o*-iodoxy benzoate) seemed to be of distinct value in the treatment of five cases of various forms of arthritis reported by Smith. Amiodoxyl may be administered intravenously, by mouth or by rectum. The giving of the drug intravenously is productive of the best clinical results, but it is also the method which may cause a rather severe reaction. The dose is 1 Gm., semiweekly, prepared by dissolving the drug in 100 cc. of sterile distilled water without heat. The time for its injection should consume from ten to fifteen minutes. Given in this manner there may be no reaction or a reaction varying from tingling and burning of the tongue and buccal mucous membrane, lacrimation and slight nausea to rather alarming prostration and cardiac depression. The more severe reactions are rare. In giving the drug by mouth it has been Smith's experience that patients prefer it in capsules rather than in solution. He has given 1 Gm. each day in this manner for a week at a time without discomfort to the patient. He has not used the rectal method of administration.

Virginia Medical Monthly, Richmond

55: 755-832 (Feb.) 1929

Duodenal Ulcer. E. S. Judd, Rochester, Minn.—p. 755.
Gastrectomy for Gastric Ulcer and Gastric Cancer. J. M. Emmett, Clifton Forge.—p. 759.
Unusual Duodenal Conditions as Demonstrated by Roentgen Ray. V. W. Archer and C. H. Peterson, University.—p. 762.
Agranulocytic Angina: Case. A. L. Tynes, Staunton.—p. 765.
Human Infection with Brucella Melitensis, Variety Abortus. W. B. Martin, Norfolk.—p. 770.
Fractures and Treatment. W. L. Powell, Roanoke.—p. 776.
Dr. James Craik. M. W. Ireland, Washington, D. C.—p. 780.
Recent Results in Rhinoplasty. L. Cohen, Baltimore.—p. 781.
Stonewall Jackson's Surgeon. C. O. Dearmont, White Post.—p. 788.
Influence of Physiologic Research on Modern Surgery. J. S. Horsley, Richmond.—p. 790.
Tularemia. W. L. Smith, Norfolk.—p. 796.
Influence of Forced Fluid Administration on Course of Mercury Poisoning. C. C. Haskell, L. G. Hastings and A. D. Ferrell, Richmond.—p. 798.
Mental Prophylaxis. W. W. Young, Atlanta, Ga.—p. 800.
Five Point Child and Scholastic Credits. L. T. Royster, University.—p. 802.
Senile Epilepsy (Epilepsia Tarda). F. H. Redwood, Norfolk.—p. 804.
Mechanical Methods Aiding Localization of Spinal Cord Compression. T. W. Brockbank, Rochester, Minn.—p. 806.
Acute Abdomen. R. H. Meade, Jr., University.—p. 811.

FOREIGN

An asterisk (*) before a title indicates that the article is abstracted below. Single case reports and trials of new drugs are usually omitted.

British Medical Journal, London

1: 333-382 (Feb. 23) 1929

Relation of Early Mistakes in Infant Feeding to Dyspepsias of Later Infancy and Childhood. E. Pritchard.—p. 333.
*Significance of Intradermal Tuberculin Tests. S. L. Cummins.—p. 336.
*Physical Therapy in Treatment of Chronic Rheumatism. F. D. Howitt. —p. 338.
Miner's Nystagmus. J. J. Evans.—p. 341.
*New Method of Approach in Gastric Surgery. D. Chamberlain.—p. 343.
Acute Hemorrhagic Pancreatitis with Tuberculous Disease of Pancreas. J. A. M. Cameron and M. Gillespie.—p. 344.
Cardiac Disease Among South African Non-Europeans. H. L. Heimann. —p. 344.
Gradenigo's Syndrome: Case. D. B. Sutton.—p. 346.
*Treatment of Actinomycosis. H. Chitty.—p. 347.
*Ulcerative Endocarditis of Puerperal Origin. E. K. MacDonald and G. R. MacNab.—p. 348.
Traumatic Rupture of Spleen Complicated with Hematuria. B. V. Dunn. —p. 349.
Cause and Cure of Morning Sickness. A. Richmond.—p. 349.
Myxedema Following Mammary Hypertrophy in Childhood. W. Alexander.—p. 350.

Significance of Intradermal Tuberculin Tests.—It would seem from the observations made by Cummins that tuberculin sensitivity is at its height in healthy but infected adults, and is still high in those tuberculous persons in whom the disease is taking a relatively benign course, and that it tends to diminish with the gradual deterioration of health consequent on advancing tuberculosis. Whether this fall in sensitivity is the result of the production of antibodies capable of neutralizing tuberculotoxin or whether it is due to a gradual loss of the power of breaking down tuberculin into its toxic derivatives remains uncertain. The fact that long-continued tuberculin therapy may lead to a toleration of tuberculin, with a corresponding clinical improvement, supports the possibility of a "neutralization" factor, at least in favorable cases, while the fall of tuberculin sensitivity in the advanced stages of nontuberculous diseases, as well as in the terminal stages of tuberculosis, speaks for a gradual deterioration in the power to deal with tuberculin or to react to it. It may be that the loss of tuberculin sensitivity is due not to one but to several factors, and that different factors may be operative in inhibiting the reaction at different stages of the disease. While it appears certain that a very low percentage of "positive" reactions in any given community goes with a marked racial and individual susceptibility to tuberculosis, it would be a mistake to assume that a high percentage necessarily denotes the possession of a good resistance. The fact that tuberculous children tend to react as well as, or better than, tuberculous adults is against this, since children exhibit a greater liability than adults to generalized tuberculous lesions. A good tuberculin reaction, then, is no guarantee that the patient will be able to control the tuberculosis, nor is a high percentage of reactions, even to so small a quantity of tuberculin as 0.1 cc. of a 1:10,000 dilution, or 0.01 mg., to be interpreted as meaning that the tested group is necessarily resistant to the evolution of the disease. The fact that much larger doses of tuberculin can be tolerated without a general reaction by the intradermal than by the subcutaneous route should recommend the Mendel-Mantoux method to those using tuberculin in treatment.

Physical Therapy in Treatment of Chronic Rheumatism.—It is suggested by Howitt that chronic rheumatism is an allergic state produced by a number of widely different antigens in a susceptible subject. For this susceptibility the habits and necessities of modern civilization, especially inadequate stimulation of the skin, are largely to blame. Physical therapy owes much of its success to the rectification of these errors.

New Method of Approach in Gastric Surgery.—Chamberlain reports two cases of carcinoma of the stomach which at first sight appeared to be inoperable. In both, operation was performed by Moynihan. He opened the abdomen and directly irradiated the tumor with a large dose of high voltage roengen rays. A second operation was done six weeks later, when the growth was found to be considerably shrunken and much more freely movable. In one case a partial gastrectomy was done without much difficulty. The patient had an uninterrupted convalescence and was still in good health four and a half years after the operation, except for a secondary anemia. In the second case the stomach was removed. The patient is still in good health more than three years after the operation.

Treatment of Actinomycosis.—Chitty reports four cases of actinomycoses in which a cure was effected by giving 5 minims (0.3 cc.) of tincture of iodine in milk three times daily.

Ulcerative Endocarditis of Puerperal Origin.—MacDonald and MacNab report a fatal case of puerperal sepsis in which there was almost total absence of pelvic symptoms or signs, and also of clinical signs suggestive of heart lesions such as were found at necropsy. At no time did the patient complain of pelvic or cardiac pain, nor could any previous history of rheumatism or tonsillar or cardiac trouble be elicited.

Edinburgh Medical Journal

36: 133-216 (March) 1929

Tuberculosis of Spinal Column. J. Fraser.—p. 133.
Ultraviolet Therapy in Dispensary Practice. R. J. Peters.—p. 155.
Operative Treatment of Abdominal Tuberculosis. J. Taylor.—p. 161.
Silicosis. F. L. Henderson.—p. 166.
Exhibition of Large Paraffin Sections of Entire Lung. C. M'Neil and A. M. MacGregor.—p. 170.
Treatment of Cervical Caries. C. Cameron.—p. 170.
Treatment of Tuberculous Disease of Hip Joint. W. Mercer.—p. 173.

Indian J. Medical Research, Calcutta

16: 559-860 (Jan.) 1929

*Epidemiology of Smallpox. A. J. H. Russell and E. R. Sundararajan. —p. 559.
Larvae of Anopheles Fuliginosus, Pallidus and Philippinensis. M. O. T. Iyengar.—p. 639.
Tricercomonas of Pig. R. Knowles and B. M. Das Gupta.—p. 647.
Trichomonas of Porcupine. R. Knowles and B. M. Das Gupta.—p. 653.
*Pathologic Aspects of Chronic Appendicitis: 1. Lymphoid Tissue of Appendix. T. Bhaskara Menon.—p. 656.
*Id.: II. Eosinophil Infiltration of Appendix. T. Bhaskara Menon. —p. 661.
*Investigation into Cause of Ascites. A. N. Bose and B. N. Banerji. —p. 664.
Preserving Feces Containing Hookworm Eggs by Two Per Cent Antiformin. P. A. Maplestone.—p. 675.
Redescription of Wuchereria Bancrofti (Cobbold, 1877) with Reference to Tail of Male. P. A. Maplestone.—p. 683.
Hematologic and Serologic Investigations in Leprosy. J. M. Henderson, N. K. De and S. Ghosh.—p. 687.
Filariasis in Some Areas in British India: III. V. T. Korke.—p. 695.
Indian Species of Genus Phlebotomus: XXIV. Phlebotomus Barraudi N. Sp. J. A. Sinton.—p. 716.
*Studies in Malaria: XI. Cinchona Alkaloids in Treatment of Benign Tertian Malaria. J. A. Sinton and W. Bird.—p. 725.
Vitamin B Deficiency in Pigeons: Occurrence of Refection. J. Taylor and U. Thant.—p. 747.
Malaria in Coorg. T. C. M. Young and A. Majid.—p. 766.
Medicinal Plants Growing in Himalayas: II. R. N. Chopra, N. N. Ghosh and A. N. Ratnagiriswaran.—p. 770.
Comparative Action of Ephedrine and Pseudo-Ephedrine from Indian Varieties of Ephedra on Heart. R. N. Chopra, B. B. Dikshit and K. V. Pillai.—p. 780.
*Manganese in Food Stuffs. C. Newcomb and G. Sankaran.—p. 788.
Morbid Anatomy of Sprue. F. P. Mackie and N. H. Fairley.—p. 799.
Microscopic Changes Occurring in Organs After Death. F. P. Mackie. —p. 827.
Anemia in Sprue: Sixty-Seven Cases. N. H. Fairley, F. P. Mackie and H. S. Billimoria.—p. 831.

Epidemiology of Smallpox.—According to Russell and Sundararajan it is probable that in India low relative humidity consequent on conditions following failure of the periodic rains produces conditions favorable to the development of virulent smallpox. By noting changes in relative humidity, especially in dry areas, this indicator can be used to forecast epidemics of smallpox well in advance.

Lymphoid Tissue of Appendix.—Menon suggests that there seems to be a definite relationship between lymphoid hyperplasia of the appendix in children, as well as in adults, and clinical symptoms of colicky pain in the lower part of the abdomen. In a chronically inflamed organ there is a tendency for atrophy of the lymphoid tissue to occur.

Eosinophil Infiltration of Appendix.—Menon asserts that eosinophilia of the mucous membrane of the appendix is a normal phenomenon, at least in the tropics. Eosinophil infil-

tration of the submucosa of the appendix is evidence of chronic appendicitis.

Investigation into Cause of Ascites.—This study by Bose and Banerji shows that ascites of nonrenal, noncardiac and apparently nonhepatic origin is common among adult Indian males in Behar. The poorer classes are mostly affected. It is a chronic and progressive disease associated with bacillary dysentery (84 per cent) and with kala-azar (31 per cent). The renal and cardiac functions are good in the majority of cases. There is evidence of impaired function of the liver in 84 per cent of cases. The ascitic fluid is a transudate with a preponderance of endothelial cells. It is not tuberculous in origin. In the cases with no history of kala-azar, a definite relationship with bacillary dysentery is established. In the absence of sufficient evidence in favor of cirrhosis of the liver, tuberculosis or inflammation as etiologic factors, a mechanical origin of the fluid due to disturbance of the absorptive power of the upper part of the peritoneum caused by previous dysenteric infection seems probable.

Cinchona Alkaloids in Treatment of Benign Tertian Malaria.—Regarding the relapse rates after the treatment of infections due to *Plasmodium vivax*, Sinton and Bird found that the percentage of relapses in a population suffering from fresh infection with *P. vivax* is much lower than the percentage among a population suffering from only chronic relapsing infections. The quinine and alkali treatment seems to be more efficacious than quinine alone in curing fresh infections, but the results in chronic infections did not show very marked benefit. The four chief crystallizable alkaloids of cinchona bark, quinine, quinidine, cinchonine and cinchonidine, showed almost an equal value in preventing relapse in chronic infections. Quinidine gave the worst result. No evidence was found to confirm the assertion that quinidine was more effective than the other alkaloids in the treatment of infections with *P. vivax*. Cinchona febrifuge has a value which, for most practical purposes, seems equal to that of the pure alkaloids in the treatment of chronic infections.

Manganese in Foodstuffs.—A method for the determination of manganese in foodstuffs is described by Newcomb and Sankaran. Manganese is widely distributed in foodstuffs. Oils contain little or none, but all other classes of foods contain it in amounts which show very large variations both from one foodstuff to another and between different samples of the same foodstuff. The manganese in cereals such as rice and wheat is largely lost in the processes of sophistication these often undergo in preparation for the market.

Lancet, London

1: 375-426 (Feb. 23) 1929

Treatment of Some Acute Abdominal Disorders. R. J. M. Love.—p. 375.
*Intravenous Antitoxin in Scarlet Fever. H. S. Banks and J. C. H. MacKenzie.—p. 381.
*Blood Cholesterol During Menstrual and Epileptic Cycles. E. Goodall. —p. 384.
Brucella Abortus Infection in Man: Case. J. A. Charles and S. H. Warren.—p. 386.
Bacillus Abortus Infection in England. A. T. Todd.—p. 388.
*Bacteriologic Investigation of Present Influenza Epidemic. D. Thomson and R. Thomson.—p. 388.

Intravenous Administration of Antitoxin in Scarlet Fever.—Banks and MacKenzie report on the results of intravenous injection of scarlatinal antitoxin in 404 cases of scarlet fever treated in the Leicester Isolation Hospital from May to December, 1928. Before this period they had commonly employed the serum intramuscularly. In the hope of obtaining better results they began to inject it intravenously. It soon became evident that by this means the acute stage of the disease could be still more curtailed, complications prevented, and the stay in the hospital still further materially reduced. Intravenous injection was the routine method of treatment in all definite cases admitted in the acute stage, even up to the fifth or sixth day of disease. Children under the age of 2 years were generally judged too young for intravenous injection. In those with a history of asthma or other form of protein sensitiveness, or with definite bronchitis or acute respiratory disease, intravenous injection was held to be contraindicated on account of protein shock. In some other cases difficulty was encountered with a vein. In all cases falling into those categories, serum was given intramuscularly. In doubtful cases 3 or 4 cc. was given intramuscularly, either for prophylaxis or for treatment. Cases admitted late in the disease, and some very mild cases, were treated without serum. The effect of intravenous injection on the acute stage was almost invariably dramatic, even up to the fifth day of the disease. In a few cases (sixteen) it was given on the sixth day with good results. When the patients were seen the next morning they were generally reading a book unconcernedly. The temperature had fallen below the normal line, the rash had faded, and the edema of the throat had subsided; there was no complaint of sore throat, and they said that they felt "much better." Practically the only patients who failed to respond quickly were those to whom a considerably lower dosage was given than the standard finally adopted. Generally the effective dose was found to be about 20 cc. for an adult or a severe septic or toxic case, and 10 cc. for a child or a moderate case. Rather smaller doses than these were given in the milder cases. The intravenous injection is followed in fully 60 per cent of the cases by a rigor and rise of temperature (which may be as high as 107 F.) within three-quarters of an hour. The color is not infrequently poor and the pulse rapid. This reaction passes off within about half an hour, and the patient then generally falls asleep. Accordingly, in all cases, as soon as the injection was given, the foot of the bed was raised and the patient was surrounded with hot bottles and blankets until the rigor had passed off. Subcutaneous injection of epinephrine, from 3 to 5 minims (0.2 to 0.3 cc.) prophylactically, as soon as the first signs of the protein reaction appeared, was apparently of value in mitigating the reaction.

Blood Cholesterol During Menstrual and Epileptic Cycles.—The blood of twelve mentally disordered women, aged between 22 and 47, was examined by Goodall for cholesterol in two phases of the menstrual cycle; viz., intermenstrual and intramenstrual. In each phase blood was taken on three consecutive days. In the intermenstrual series all the patients were in bed and on the diet for three days before the first estimation. In the intramenstrual series these conditions were observed for three or more days (up to ten) before the first estimation. The amount of cholesterol present in the blood was the same in the intermenstrual as is the intramenstrual period. The cholesterol in the whole blood in six cases of long standing epilepsy, with dementia to a greater or lesser extent, was also determined. In each case three estimations were made in the interparoxysmal and three in the preparoxysmal phase. In five of the six cases the blood cholesterol in the interparoxysmal phase was fairly constant over the three days on which estimations were made; in the sixth case one of the values was considerably higher than the other two; hence the variation of the maximum and the minimum from the mean was more marked than usual. In four out of the six cases the blood cholesterol in the preparoxysmal phase was fairly constant over the three days on which estimations were made; in the two remaining cases the variation was more marked. The mean value for the blood cholesterol in the preparoxysmal phases was not markedly different from that in the interparoxysmal phases. The variations from the mean tend to be greater in the former.

Bacteriologic Investigation of Present Influenza Epidemic.—The Thomsons suggest that so-called influenza epidemics may be due to virulent streptococcal infections of the respiratory tract, and that these streptococcal infections may vary with different epidemics. In the course of their investigations they discovered a rapid new test for the differentiation of the colonies of streptococci and other organisms. This test consists simply of placing a drop of compound solution of iodine over the colony. Some colonies which are iodine plus become dark brown in a few seconds; others are iodine minus and remain unaffected.

Tubercle, London

10: 257-304 (March) 1929

*Co-Relation of Calcium Metabolism, Parathyroid Function and Chronic Pulmonary Tuberculosis (II). P. Ellman.—p. 257.
Early Infiltration and Relation to Development of Phthisis. H. V. Morlock.—p. 267.

Co-Relation of Calcium Metabolism, Parathyroid Function and Chronic Pulmonary Tuberculosis.—Ellman states that the calcium content of the blood serum in pulmonary

tuberculosis varies only within normal limits; namely, from 9 to 12 mg. per hundred cubic centimeters. The supposed diminution of the calcium content of the blood in pulmonary tuberculosis found by some observers has not been confirmed during the course of this work. In cases responding favorably to treatment the calcium content can be raised, but only within normal maximum limits. The object in view, therefore, in treatment with calcium or parathyroid therapy, is to endeavor to raise the blood calcium to its maximum concentration point. The administration of calcium or parathyroid must be continued over a prolonged period if calcium retention is to be promoted. A combination of parathyroid extract with calcium lactate has proved as effective as any. Microscopic examination of the parathyroid glands in cases of pulmonary tuberculosis shows signs of increased functional activity of the glands. Hence, the conclusion is reached that there is a definite relationship between pulmonary tuberculosis on the one hand, and calcium metabolism and parathyroid function on the other.

Bruxelles-Médical, Brussels

9: 502-531 (March 3) 1929

*New Method of Treatment of Callous Gastric Ulcers Penetrating into Liver and Pancreas. R. Leriche.—p. 502.
Mixed Protein and Chemotherapeutic Desensitization in Dermatoses. Gerard.—p. 511.
*Treatment of Sterility by Intratubal Injections of Iodized Oil. J. J. Snoeck.—p. 514.

New Method of Treatment of Callous Gastric Ulcers Penetrating into Pancreas and Liver.—Because in these ulcers the peritoneum is not perforated but only adheres to the surrounding organs (pancreas and liver), which are congested and sclerosed Leriche thinks that resection of the stomach should not be performed, the ulcer should be carefully separated from the surrounding adhesions, the stomach walls should be sutured layer by layer, without any resection of the stomach, and then the operation should be completed by a gastroenterostomy. He obtained good results in two of the three cases reported; the third patient died the eighth day after the operation (from a pulmonary embolus).

Treatment of Sterility by Intratubal Injections of Iodized Oil.—Snoeck reports a case of sterility with tubal impermeability after an induced abortion. After one intratubal injection of iodized oil the patient became pregnant. In fifteen similar cases the sterility was cured by intratubal injections of the iodized oil, after tubal insufflation had proved of no avail. Therefore, the author thinks that the iodized oil treatment is more efficient in the restoration of tubal permeability than is tubal insufflation.

Bulletin Médical, Paris

43: 201-228 (Feb. 20-23) 1929

Functional Insufficiency of Mitral and Aortic Valves. G. Marchal.—p. 207.
*Treatment of Cardiac Dilatation by Precordial Thoracectomy. R. Giroux.—p. 211.
Cardiac Insufficiency in Pulmonary Tuberculosis. R. Godel.—p. 213.
Phlebitis of Inferior Extremities. M. Louvel.—p. 216.

Treatment of Cardiac Dilatation by Precordial Thoracectomy.—Giroux reports a case of cardiac dilatation in a boy, aged 18, who since the age of 8 had had yearly attacks of acute articular rheumatism, finally developing cardiac decompensation with orthopnea, tachycardia (120) pulmonary stasis, large liver (five fingerbreadths below the costal edge), perimalleolar edema and oliguria with albuminuria. Twice digitalis and ouabain relieved the symptoms, but only for a short time (from twenty to fifteen days); eventually they failed to have any effect. Because of the grave condition of the patient thoracectomy was performed, and, after it, the digitalis treatment was resumed. The pulse slowed from 120 to 90 immediately after the operation, the diuresis increased rapidly, the dyspnea disappeared and the liver gradually returned to normal size. One year after the operation the patient was still in good condition, and the heart was markedly reduced in all dimensions. The author thinks that it is not advisable to postpone surgical intervention in such cases until the decompensation becomes irremediable; operation should be performed as soon as the regular cardiac drugs begin to be less effective.

Bulletins et Mém. de la Soc. des Chirurgiens de Paris

21: 85-124 (Feb. 1) 1929

*Use of High Frequency Currents in Treatment of Prostatic Disturbances. G. Arnold.—p. 89.
*Magnesium Salts Treatment of Cancer. P. Barbarin.—p. 96.
*Impacted Intracapsular Fractures of Neck of Femur. H. Judet.—p. 99.
Three Cases of Tumor of Bladder. Peugniez.—p. 111.
Lateral Dislocation of Both Bones of Forearm. P. Muller.—p. 117.

Use of High Frequency Currents in Treatment of Prostatic Disturbances.—Arnold reports a case of adenoma of the prostate in a man, aged 58, who had considerable pollakiuria, severe pains on urination, 75 cc. of residual urine, and fever and was in poor general condition. He was completely cured by two treatments of electrocoagulation applied to the prostate through the urethra. In all cases of urinary disturbances caused by small hard sclerous prostates or by medium sized or by partial (median part especially) hypertrophy of the prostate, the author uses high frequency currents for boring into the prostate through the urethra or transvesically, after a suprapubic cystotomy. In the cases of large prostates he performs prostatectomy.

Magnesium Salts Treatment of Cancer.—Barbarin used magnesium salts (magnesium chlorate) in the treatment of cancer for thirty years but cannot report any case of cancer cured by their exclusive use. He considers the surgical treatment the basic treatment of cancer and the magnesium therapy only a valuable auxiliary, because it slows the evolution of some cancers, especially cancer of the breast and of the digestive tract (with the exception of the liver), checks the hemorrhages, and ameliorates the recurrent ulcerations.

Impacted Intracapsular Fractures of the Neck of the Femur.—Judet reports five cases of impacted intracapsular fractures of the neck of the femur. At roentgen examination it was found that the distal fragment of the neck was impacted in the cephalic fragment. Four patients were unable to walk; the fifth one could walk. Four patients were cured by immobilization with extension; the fifth one, in whom the impacted fragments were mobilized before the application of a plaster cast, developed a pseudarthrosis. The author thinks that the prognosis is good in impacted intracapsular fractures of the neck of the femur, if the impaction is left untouched and the fragments are not dislocated by rough manipulation, because of the difficulty of the consolidation of free fragments in old people.

Bulletins et Mém. de la Soc. Nat. de Chirurgie, Paris

55: 179-244 (Feb. 16) 1929

Treatment of Chronic Noncalculous Cholecystitis by Cholecystectomy. Ibos and Legrand-Desmons.—p. 181.
*Foreign Body in Duodenum of Infant, Aged Four Months. Matry.—p. 184.
Tarsoplasty in Recurrent Talipes Equinovarus. H. L. Rocher.—p. 187.
Late Results of Bone Graft and Immobilization in Fracture of Neck of Femur. R. Bernard.—p. 194.
*Reconstruction of Sphincter of Urethra by Means of Muscle Graft. J. Madier.—p. 198.
*Review of 252 Operations for Hepatic Amebiasis. H. Lacase.—p. 199.
Use of High Frequency Currents in Surgery. Heitz-Boyer.—p. 210.
Relation Between Treatment of Gastroduodenal Ulcers and Histophysiology of Stomach. R. Leriche.—p. 233.

Foreign Body in Duodenum of Infant, Aged Four Months.—Matry reports the case of an infant, aged 4 months, who swallowed a bar pin. On roentgenologic examination the pin was located in the duodenum, and though it had not caused any disturbances, surgical intervention was decided on because the pin was open. At laparotomy the pin was pushed from the duodenum toward the stomach and then extracted through a small incision in the stomach. The infant made an uneventful recovery.

Reconstruction of the Sphincter of the Urethra by Means of Muscle Graft.—Madier used a muscle graft from the gracilis muscle for the reconstruction of the sphincter of the urethra in a woman with a complete chronic urinary incontinence of several years' duration, after the failure of several previous surgical interventions of various kinds. After a thorough dissection of the urethra, the gracilis muscle was exposed by an incision on the inner aspect of the thigh, and a strip 15 or 20 cm. in length was cut off from the upper part of the muscle, without severing of its attachments to the pubis; then the skin incision was prolonged transversely inward up

to the urethra extending through the labia minora and majora and the vagina; the muscular band from the gracilis was passed through it and fixed around the dissected urethra. The patient considers herself completely cured; only when she is very tired does slight oozing of urine occur on walking or on exertion.

Review of 252 Operations for Hepatic Amebiasis.—Lacase had only eight deaths in 252 operations for hepatic amebiasis. The operations were always made after an exploratory puncture. The author advises large incisions to allow good exposure and thorough exploration of the liver, because of the possible existence of multiple abscesses, which were found in fifty-three of the 252 cases reported. In the presuppurative, congestive phases of hepatitis, if a puncture, acting as a phlebotomy, did not bring an amelioration, a capsulotomy with hepatotomy usually effected the cure. But the surgical treatment was always combined with emetine and arsenic treatment, because amebic hepatitis is always a complication of intestinal amebiasis.

Journal d'Urologie Médicale et Chirurgicale, Paris

27: 1-96 (Jan.) 1929

Large Renal Cysts. M. Secrétan.—p. 5.
*Hematuria in Urethral Strictures. L. Strominger.—p. 11.
Relation Between Spina Bifida Occulta and Incontinence of Urine. L. A. Surraco.—p. 15.
Primary Adenocarcinoma of Epididymus. A. J. Scholl and J. Verbrugge. —p. 24.
Multilocular Bladder. S. Mézan.—p. 31.

Hematuria in Urethral Strictures.—Strominger reports a rare case of recurrent hematuria in a man, aged 58, with an old stricture of the urethra of gonorrheal origin, complicated by glycosuria, pneumaturia and colibacilluria. The patient had been treated for this stricture by repeated urethrotomies and dilations of the urethra since the age of 16, but the hematuria had occurred only three years before, without any accountable exciting cause, and since then it had recurred several times. When other treatments were of no avail it could always be checked in a couple of days by the use of an indwelling catheter. The author thinks that such attacks of hematuria complicating strictures of the urethra, occurring apparently without any exciting cause, are due to a congestion of the bladder caused by retention of the urine and by some urinary infection (colibacilluria in the case of his patient). The only efficient mode of treatment (by indwelling catheter) supports his explanation.

Paris Médical

1: 185-200 (Feb. 23) 1929

Perforation of Esophagus into Respiratory Organs in Course of Carcinoma of Esophagus. P. Carnot.—p. 185.
*Hemolytic Serotherapy of Multiple Sclerosis. M. Laignel-Lavastine and Koressios.—p. 190.
Relation Between Colitis and Appendicitis. P. Jacquet.—p. 193.
Determination of Basal Metabolism. L. Plantefol.—p. 197.

Hemolytic Serotherapy of Multiple Sclerosis.—Laignel-Lavastine and Koressios report eleven cases of multiple sclerosis treated with a serum that was prepared by inoculation of rabbits with the erythrocytes and the cerebrospinal fluid of patients with multiple sclerosis, and thus, theoretically, contained antibodies for multiple sclerosis. They observed general and local reactions in all patients during the first day or two after the administration of the serum: rise of temperature to 39 C. (102.2 F.), cephalalgia, slight transient anemia, various degrees of hemolysis (icterus), incontinence or retention of urine, and a feeling of heaviness in the legs, sometimes with paraplegia. Then, in a few days, there was transient or permanent disappearance of the rigidity and the contractions of the legs, of trembling, of clonus and of nystagmus, with a return of the muscular strength and decrease of fatigue. The best results, up to a complete cure, were observed in comparatively early cases of multiple sclerosis.

Presse Médicale, Paris

37: 233-248 (Feb. 20) 1929

Infections Caused by Bacillus Paratyphosus C. P. Teissier, P. Gastinel and J. Reilly.—p. 233.
*Malignant Endocarditis Lenta with Aneurysm of Radial Artery. R. Soupault, R. A. Gutmann, P. Rouché and R. Jahiel.—p. 236.

Malignant Endocarditis Lenta with Aneurysm of Radial Artery.—Soupault et al. report a case of malignant endocarditis lenta with an aneurysm of the right radial artery in a man, aged 33, with a history of three previous attacks of acute articular rheumatism. The interesting point was the rapid evolution of the aneurysm and the results of the microscopic and the bacteriologic examination of its walls after the operation, which was performed because of severe pains and other symptoms of compression in the corresponding arm. The aneurysm was found to be sacculated, with a small fistula of the arterial wall, and the anatomicopathologic examination of the sac revealed some areas of suppuration caused by *Streptococcus viridans*, which is suggestive as to the mechanism of the evolution of this kind of aneurysm.

37: 249-264 (Feb. 23) 1929

*Diagnostic and Prognostic Value of Peripheral Venous Pressure in Mediastinal Syndromes. M. Villaret and M. Martiny.—p. 249.
*Relationship Between Chronic Rheumatism and Parkinsonism. J. Carles and Massière.—p. 251.
Spontaneous Postoperative Evisceration. P. Monod and Kiraly.—p. 253.

Diagnostic and Prognostic Value of Peripheral Venous Pressure in Mediastinal Syndromes.—Villaret and Martiny studied the peripheral venous pressure in fibrous mediastinitis, in mediastinal tumors, in pericarditis, in pleurisy, in empyema and in pneumothorax. It was usually increased in all kinds of mediastinal syndromes and the increase was due to the compression of the superior vena cava caused by fibrous mediastinitis, though in some rare cases of retractive fibrous mediastinitis there was dilatation, not compression, of the superior vena cava and the venous pressure was normal and even subnormal. The size of the mediastinal tumors was of less importance, because in a supple, yielding mediastinum even a large tumor may not be able to compress the vena cava. The authors consider the increase of venous blood pressure a valuable guide in the prognosis and treatment of pleurisy and pneumothorax, and especially a control in thoracentesis and artificial pneumothorax.

Relationship Between Chronic Rheumatism and Parkinsonism.—Carles and Massière report two cases of simultaneous and parallel evolution of symptoms of chronic articular rheumatism and of parkinsonism in women, aged 53 and 39, respectively, after an attack of acute articular rheumatism in one of them, and in association with mitral insufficiency, due probably to previous rheumatic infection, in the other. Because the symptoms of Parkinson's disease reveal the disturbances of the basal gray nuclei (corpus striatum), it may be presumed that the neurotrophic disturbances in chronic articular rheumatism (in these two cases) are determined by the same lesions, caused probably by the yet unknown virus of acute articular rheumatism. This supposition is made more plausible by the fact that in chorea minor, which is caused by some disturbances of the same central gray nuclei, there are also symptoms of acute articular rheumatism and endocarditis. It seems that all infections that have an affinity for the central gray nuclei are liable to determine the neurotrophic disturbances of chronic articular rheumatism; thus, for instance, symptoms of chronic articular rheumatism may be observed in postencephalitic parkinsonism. Therefore the authors think that there exist some forms of chronic articular rheumatism that are caused by a neurotropic virus with special affinity for the central gray nuclei.

Schweizerische medizinische Wochenschrift, Basel

59: 169-236 (Feb. 23) 1929

*Treatment of Surgical Tuberculosis. H. Matti.—p. 169.
Idem. H. Paschoud.—p. 197.

Treatment of Surgical Tuberculosis: Review.—At the annual meeting of the Swiss Surgical Society, Matti reviewed the treatment of surgical tuberculosis and presented some interesting tables. According to König, the final results in 2,000 patients treated by resection of the joints were as follows: Of 105 patients with shoulder joint resection of whom seventy-five were traced after from sixteen to forty-two years, nineteen had died and fifty-seven were permanently cured. Of 285 patients with elbow resections, 220 were traced after from eleven to thirty-four years; seventy-four had died and 143 were permanently cured. Of fifty-seven patients with wrist resections, forty-five were traced; six had died and thirty-four were cured. Of 427 patients with hip joint resections, 335 were traced after

from nine to twenty years; seventy-nine had died and 207 were permanently cured. Of 1,202 patients with knee joint resections, 983 were traced after from nine to twenty-seven years; 160 had died and 714 were permanently cured. Among 376 patients with ankle resections, 274 were traced after from ten to nineteen years; thirty-nine had died and 174 were permanently cured. The author reviewed the various methods of operating on the soft parts, such as the opening of abscesses and treatment with iodine. Grekow applied iodine in several thousand cases and had success in 70 per cent. The treatment with calcium chloride is becoming popular and Oschmann observed satisfactory results in 44 per cent of his cases, good results in 31 per cent and excellent results in 19 per cent. Of all the methods, however, heliotherapy is the most successful. Rollier's statistics from 1913 to 1921 show recovery from tuberculosis of the hip joint in 70.7 per cent of the cases; knee joint, 71.9 per cent; ankle joint, 78.5 per cent; shoulder joint, 71 per cent; elbow joint, 71 per cent; wrist, 45.2 per cent; spondylitis with abscess, 85.7 per cent; without abscess, 79.1 per cent; fistulas, 31.2 per cent; tuberculosis of the glands, 78.5 per cent. The statistics of the combined conservative treatment in Hohenlychen are very similar. Combined heliotherapy and operative treatment give still better results, as shown in Bernard's final statistics: bone tuberculosis, 91 per cent; joint tuberculosis, 91 per cent; tuberculosis of the glands, 88 per cent. When sun therapy is not possible, roentgen irradiation and climatic treatment may also yield satisfactory results. Thus Siedamgrotzky reported 600 cases of tuberculosis of the lymph nodes treated with roentgen rays, with cure in 85 per cent and improvement in 14.5 per cent. The author compared the advantages of Alpine and marine sanatoriums and found that the best results were obtained at high altitudes, although the effects are variable, so that the change from one climate and treatment to quite a different one often yields the best results. Matti even believes that the effect is better, the greater the difference between the original and the new living conditions.

Clinica Pediatrica, Modena

10: 767-850 (Dec.) 1928

Painful Retromandibular Point in Apical Pulmonitis. R. Simonini.—p. 767.
Blood Cholesterol Index of Children. P. Gorini.—p. 789.
Clinical Method for Determining Albumin Index in Cerebrospinal Fluid. A. Macchi.—p. 810.
*Hematoma of Dura Mater in Children. M. Santi.—p. 820.

Hematoma of the Dura Mater in Children.—Santi reviews the main clinical symptoms of hematoma of the dura mater: 1. Changes in the volume of the cranium; enlargement; increase in the size of the fontanels; separation of the sutures; dilatation of the veins of the cranium. 2. Changes in the form of the cranium. In internal hydrocephalus the dilatation affects the fronto-occipital diameter; in subdural hematoma all the diameters are increased but the biparietal is usually increased most. 3. Increase of endocranial pressure, as indicated by great restlessness, automatic movements of the legs and, occasionally, choreiform movements; vomiting of central origin (sometimes lacking); headache, somnolence and sometimes sopor, and general hyperesthesia. In the acute cases, there are generalized tonicoclonic convulsions, which must be differentiated from jacksonian epilepsy. There is constant increase in the patellar reflexes. Of the cerebral nerves, the acoustic nerve especially is involved. Some have observed convergent strabismus. Unilateral nystagmus is common. The prognosis of subdural hematoma is not absolutely fatal but the mortality is high, especially through secondary infections of the meninges or intercurrent diseases. Children who recover always present physical defects, retarded mental development, or even idiocy.

Pediatria, Naples

37: 1-56 (Jan. 1) 1929

Protection of Child Against Tuberculous Infection. S. Cannata.—p. 1.
Postencephalitic Syndrome of Genital Adiposity. O. Cozzolino.—p. 19.
*Ambulatorium for Tuberculosis in Children. A. Baratta.—p. 28.
Modifications in Immunization Produced by Repetitions of Schick Test. E. Schwarz.—p. 32.

Ambulatorium for Tuberculosis in Children.—Baratta recounts the results of the first two years of functioning of the ambulatorium for tuberculous children established in November, 1926, at the Clinica Pediatrica of the University of Messina (population 177,000). To date, 395 children had visited the antituberculosis dispensary, and many more would have come if the limited accommodations had permitted. The tuberculin skin test (Pirquet method) was applied to all children before treatment was begun. The treatment consisted solely of injections of old tuberculin, given subcutaneously twice a week, with increasing doses according to the Denys scale. During the treatment the patients were reweighed (usually at intervals of ten injections) and reexamined, and the results were recorded in a suitable register. At the end of the treatment the Pirquet test was repeated and careful note was made of all data pertaining to the objective examination, including weight and temperature. In some cases fluoroscopic and radiographic control was resorted to. Of the 395 children, thirty-seven completed the course of treatment; 114 are still under treatment; 104 interrupted the treatment after a few injections; forty-three did not return after receiving from ten to forty injections; ninety-four did not return after receiving more than forty injections, and three died during the treatment. The tuberculinotherapy was well tolerated and the results were satisfactory. The patients who were benefited most were those with beginning tuberculosis or with scrofula. In many cases, the Pirquet reaction, which was at first positive, became negative. The general condition improved, which is worthy of attention, especially when it is considered that the children belonged mainly to the poorer classes, in which it was not possible to improve the alimentation and the home surroundings. Much better results might likely have been secured if proper hygienic aids and better food had placed the organism in a condition to combat effectively the tuberculous infection.

Archivos Arg. de Enf. d. Ap. Digest., etc., Buenos Aires

4: 159-316, 1928. Partial Index

*Ileus After Appendectomy. D. del Valle.—p. 159.
*Fatal Gastric Tetany Caused by Cancer of Pylorus. C. Bonorino Udaondo and M. Novas.—p. 203.

Ileus After Appendectomy.—Del Valle presents two cases of postoperative ileus following appendectomy. In neither of the patients were adhesions present, nor was anything found that suggested the possibility of later development of ileus. In both cases roentgen examination revealed a megarectum. The author believes that this congenital bowel condition was the predisposing factor which converted a simple meteorism into an intractable mechanical ileus. In both cases rectoscopy and rectosigmoidal intubation made a serious operation (artificial anus) unnecessary.

Fatal Gastric Tetany Caused by Cancer of Pylorus Developing on an Ulcer Base.—Bonorino Udaondo and Novas describe a patient, aged 41, who had had indefinite gastric symptoms. A pyloric syndrome accompanied by frequent vomiting and stasis developed. Two days after admission, the picture of generalized tetany suddenly appeared and the man died in coma. Examination of the blood in this case disclosed alkalosis and hypocalcemia.

Semana Médica, Buenos Aires

36: 181-240 (Jan. 24) 1929

Spinal Fluid and Arterial Tension in Epileptic Patients. V. Dimitri.—p. 181.
*Infantile Scurvy Caused by Artificial Feeding with Dried Condensed Milk. M. Acuña and J. M. Macera.—p. 187.
Tonsillitis and Acute Articular Rheumatism. J. Layera.—p. 190.
*Duplex Uterus and Pregnancy: Iodized Oil in Roentgen Examination of Female Genitalia. D. Iraeta and E. Harguindeguy.—p. 200.
Anticoagulative Action of Intravascular Injections. E. Cabassi.—p. 206.
Trapeziometacarpal Dislocation. O. F. Mazzini.—p. 220.
Torsion of Great Omentum. A. A. Covaro.—p. 223.
Spinal Anesthesia. A. F. Picón.—p. 237.

Infantile Scurvy Caused by Artificial Feeding.—After nine months of artificial feeding exclusively with dried milk prepared to resemble mother's milk, Acuña and Macera's patient, aged 11 months, presented typical infantile scurvy. The feeding with fresh cow's milk and orange juice gave good results. The authors believe that the feeding of infants with commercial milk preparation is justified only under certain circumstances. Fresh cow's milk is preferable. Among the commercial preparations there are some in which vitamin C is absent, and for this reason they lead to scurvy. To avoid

this, the authors state that when these preparations are given to infants, orange juice should also be given.

Duplex Uterus and Pregnancy: Iodized Oil in Roentgen Examination of Female Genitalia.—Iraeta and Harguindeguy report two cases in which the injection of iodized oil gave the roentgenologic image of a gravid duplex uterus. In both cases labor was spontaneous. One child died.

36: 241-300 (Jan. 31) 1929

Purpura. J. R. Goyena.—p. 241.
*Simple Icterus of the New-Born. J. C. Bertrand and M. Royer.—p. 247.
*Study of Sense of Smell. A. M. Sierra.—p. 258.
Structure of Myocardium and Auriculoventricular Conduction System. P. Rojas.—p. 263.
Recurrent Tubal Pregnancy. D. A. Pasqualis.—p. 285.

Simple Icterus of the New-Born.—A study of the changes in the hemoglobin content of the blood in the new-born with and without icterus was made by Bertrand and Royer. They divided the new-born into two groups: those with and those without icterus. In both groups the feces do not contain urobilin the first day of life; it appears from the second to the seventh day. Granular erythrocytes are present in the blood. In the new-born without icterus the first urine voided contains urobilin. The bilirubinemia is comparable to that in adults. In the new-born with icterus the blood count is increased, bilirubinemia is increased constantly and bilirubinuria is absent. From these observations the authors draw the conclusion that the icterus of the new-born is hemolytic.

Study of Sense of Smell.—Sierra says that the importance of testing the sense of smell as an objective sign in diseases of the nervous system is obvious, but the apparatus used hitherto for such determinations is inappropriate. The author describes his apparatus and tells how to use it. At the examination of the patient 1 or 2 cc. of ether is injected subcutaneously. After one or two minutes the patient is asked which of several bottles containing aromatic or odorous substances is the one containing ether and he always points to the flask with ether, except in cases of anosmia.

Deutsches Archiv für klinische Medizin, Leipzig

163: 129-256 (Feb.) 1929

*Serum Therapy of Scarlet Fever. A. Hartwich.—p. 129.
Digestion and Food Value of Animal Organs. H. von Hoesslin.—p. 145.
Determination of Lipolysis in Duodenal Fluid. A. Schmidt-Ott and K. H. Stauder.—p. 156.
Circulation and Respiration in Hypoglycemia. S. Lauter and H. Baumann.—p. 161.
Hypoglycemic Condition After Insulin Injection: Circulation in Hypoglycemia. E. Wiechmann and F. Koch.—p. 176.
*Intravenous Coal Injections in Treatment of Tuberculosis. T. Wedekind.—p. 202.
Insufficiency of Right Ventricle of Heart. P. Uhlenbruck.—p. 220.

Serum Therapy of Scarlet Fever.—Out of 300 cases of scarlet fever, Hartwich selected sixty serious cases (fifty-two adults and eight children) in which he used intramuscular injections of scarlet fever streptococcus antitoxin obtained by immunization of horses with scarlet fever streptococcus toxin. The author used one ampule of 25 cc. for adults, and half an ampule for children under 14 years. The results were very satisfactory. The primary effect was observed in the sudden drop in the temperature. When the temperature was not influenced, complications were already developing (7 per cent). When injections were given on the first day of the disease, the fever lasted on the average three and two-tenths days; on the second day, four days; on the third day, four and two-tenths days; on the fourth day, five days; on the fifth day, six days, and on the sixth day, nine and three-tenths days. The duration of the exanthem was shortened but its spread could not be checked. The main effect of the scarlet fever streptococcus antitoxin consisted in the favorable influence it exerted on the toxic symptoms. The general condition improved rapidly. Secondary streptococcus infections were not modified and glandular inflammations were only improved.

Intravenous Coal Injections in Treatment of Tuberculosis.—On the basis of various experiences, Wedekind prepared a new coal dust suspension for intravenous use. He reports twenty-five cases in which this method gave good results. He concludes that the intravenous introduction of the smallest quantities of coal dust causes induration in exudative and proliferative forms of tuberculosis of the lung in a short time, if the organism is still capable of reaction, and if ulceration had not destroyed too much of the lung. The best results were observed in early cases. The author did not observe any change for the worse or symptoms of intoxication. He attributes the healing effect of coal dust in tuberculosis to the stimulation of the protective activity of the reticulo-endothelial system and to the mobilization of the connective tissue.

Klinische Wochenschrift, Berlin

8: 337-384 (Feb. 19) 1929

*New Method of Sterilization of Drinking Water. R. Degkwitz.—p. 342.
New Constitutional Index. F. H. Lorentz.—p. 348.
Brucella Abortus Infection in Man: Frequency in Schleswig-Holstein. F. Weigmann.—p. 351.
Opotherapy and Exchange of Gases. W. Schemensky and M. Fink.—p. 354.
*Trauma and Pathogenesis of Diabetes. E. Kaufmann.—p. 356.
Causes of Death in the New-Born. W. Klimke.—p. 359.
*Use of Chewing Gum for Disinfection of Oral Cavity. W. Weichardt.—p. 362.
Simple Method to Determine Cholesterol Content of Blood. G. Fettich.—p. 362.
Function of Upper Urinary Passage Following Reimplantation of Ureter into Bladder. W. Israel.—p. 363.

New Method of Sterilization of Drinking Water.—Degkwitz reviews a number of experiments which led to the discovery that substances which are considered insoluble are capable of making water which comes in contact with them oligodynamic. He mentions such metals as copper and silver and their difficultly soluble salts. It was proved that water which has acquired this oligodynamic power by contact with such substances has a germicidal action on pathogenic bacteria. Tests were made with water into which colon bacilli, paratyphoid and typhoid bacilli and streptococci had been introduced. The oligodynamic agent was silver. It was observed that, if such water was passed through a filter of quartz sand with a silver content of 10 per cent, (1) a large number of the germs were held back in the filter; (2) these bacilli were killed instantly through contact with the silver; (3) the water acquired an oligodynamic power which not only destroyed the germs which had not been retained by the filter but also killed those that were put into the water after it had left the filter. The author asserts that this method of sterilizing drinking water is especially valuable for small waterworks in country districts where chlorination is not possible.

Trauma and Pathogenesis of Diabetes.—Kaufmann carried out investigations to see whether or not diabetes could be caused by a trauma. On the assumption that the essential factor in diabetes is a disturbance in the function of the pancreas, he reasons that an injury of this organ might cause diabetes. He points out that traumatic lesions of the pancreas occur very seldom and also that an injury of this organ does not always cause a disturbance in the carbohydrate metabolism. He reviews cases from the literature and from his own observation in which diabetes was first noticed after a trauma. The injury was not always of the pancreas; in some cases lesions of the skull or of the bones were recorded. Kaufmann concludes that it has not yet been proved that diabetes may be the direct result of a trauma. However, he believes that a mild and not previously suspected case of diabetes may become manifest and its severity increased as a result of an injury.

Use of Chewing Gum for Disinfection of Oral Cavity.—For several years Weichardt experimented to find a preparation which would influence certain undesirable bacteria in the oral cavity. He observed that the mouth washes which were generally used for mouth disinfection did not yield the desired results. He studied the bactericidal effects of a colloidal silver chloride-silicic acid preparation. In order to make it more effective he decided to combine this preparation with chewing gum. He reasoned that through the prolonged chewing the bactericide would have a more intense influence on the mucous membrane. Twenty-six persons chewed this specially prepared gum for two hours or more. The bacterial flora of the mouth was examined before as well as after chewing and it was found that the number of germs had decreased to less than half their original number. Weichardt asserts that hemolytic streptococci, which are found in cases of scarlet fever, can be influenced even more effectively than ordinary bacteria; in a number of cases they disappeared completely.

Medizinische Klinik, Berlin

25: 251-290 (Feb. 15) 1929

Cause and Treatment of Dysmenorrhea. J. Novak and M. Harnik.—p. 251.
Local Supporting Reaction: Its Pathology, Physiology and Diagnostic Significance. Schwab.—p. 254.
Diagnosis and Treatment of Paranephritis. W. Fritz.—p. 255.
*Agranulocytosis. E. Reye.—p. 257.
Gummatous Cavernitis Causing Stricture of Urethra. A. Buschke and L. Loewenstein.—p. 259.
*Operation for Hernia of Diaphragm. F. Kerschner.—p. 262.
Rupture of Retroperitoneal Part of Duodenum: Operation: Cure. A. Kantor.—p. 264.
*Contraction of Heart Following Venesection. Grothusen.—p. 265.
Forced Alimentation with Insulin Treatments. G. Fellegi.—p. 265.
Benign Embolism in Endocarditis Lenta. P. Saxl.—p. 266.

Agranulocytosis.—Reye reports the case of a woman, aged 45, who had an attack of angina. An examination of the blood two months later revealed a great decrease in the number of granulocytes. For about three months this condition remained unchanged; then an ulcer appeared on the anus. Several days later the patient developed high fever. The granulocytes disappeared almost completely from the blood and death followed soon. The etiology of agranulocytosis has never been clear. The author assumes that the human body tolerates the deficiency in granulocytes only to a certain degree and for a limited time. As a consequence of this deficiency in granulocytes, the organism loses its power of resistance against infections and injuries. Necrosis results usually in those parts of the body which are most subject to contusion and infection, such as the mouth, pharyngeal cavity, anus and vulva; also the outer skin, particularly the face and hands, and the mucous membrane of the stomach and intestine. In the case reported it was not possible to influence the agranulocytosis. Stimulation therapy, blood transfusion and roentgen irradiation did not have any effect. Reye concludes that so far no effective remedy has been found for this disease. He assumes that blood transfusion will eventually give the best results.

Operation for Hernia of Diaphragm.—Kerschner directs attention to the fact that hernia of the diaphragm has occurred more frequently in recent years than formerly. As a reason for this he points out the numerous traumatic injuries received during the war. He also points out that the better diagnostic methods, particularly roentgenoscopy, make the diagnosis of hernia of the diaphragm possible in cases in which formerly a clear determination of the nature of certain disturbances could not be made. The author states that most authorities agree that surgical intervention is generally advisable in cases of rupture of the diaphragm. The opinions differ, however, as to which is the best operative method, thoracotomy or abdominal incision. Kerschner gives a detailed description of three cases. On the basis of his observations he concludes that operation should be performed as early as possible. He prefers thoracotomy because it gives better exposure of the ruptured diaphragm and the internal organs. The abdominal incision he advises only for certain recent cases of rupture of the diaphragm.

Contraction of Heart Following Venesection.—A tabular report of the results of venesection in eleven patients is given by Grothusen. All patients were suffering from dilatation of the heart. In seven cases the venesection caused a contraction of the heart; that is, a diminution in its size. The author asserts that contraction is possible only if the heart has retained a certain compensatory power and reserve energy.

Medizinische Welt, Berlin

3: 261-296 (Feb. 23) 1929

*Effect of Nicotine and Alcohol on Longevity. F. Lickint.—p. 261.
Diseases of Uropoietic System in Early Childhood. S. Levy.—p. 263. Cen.
Mescal Button (Peyotl) Intoxication. E. Joel.—p. 265.
*Reactions of Dog's Head After Decapitation. K. Heymann.—p. 267.

Effect of Nicotine and Alcohol on Length of Life.—In spite of differing opinions about the injurious effects of smoking and alcohol drinking, and the difficulty of collecting reliable statistics, Lickint reviewed American and European material and made a comparative study of 100 men, aged more than 90. He found among ninety men between 90 and 100 years of age nineteen who had never smoked, thirty-two who were still smoking, and thirty-nine who were former smokers but had given up the habit. Among ten men over 100, three had never smoked, four were still smokers and three did not smoke any more. The author found that the recent habit of inhaling the smoke had not been practiced by these old people. It is much more injurious to health; hence the future prognosis for length of life will certainly be worse in present-day smokers. With regard to alcohol, Lickint reports that among 14,000 deaths on record at the United and General Provident Institution, the average age of abstainers was 38.8 years; that of nonabstainers, 35.1 years. At the United Kingdom Temperance and General Provident Association, the deaths in the temperance department were 1,456 out of 2,021 (72 per cent) within five years, and in the general department, 1,961 out of 2,221 (88.29 per cent) during the same period. Other insurance companies have had the same experiences and some are granting reductions to abstainers. On the whole, the author believes that the nicotine and alcohol habits are injurious to health.

Experimental Reactions of Dog's Head After Decapitation.—Heymann reports the experiments of Brukonenko and Tschetchulin, who have been working for five years on the problem of preserving life in the head of a decapitated higher animal. They succeeded in constructing a mechanical apparatus which replaces the blood circulation of the body. After gradual separation of the head the blood vessels were connected with the tubes of the apparatus and soon the blood started to circulate as in a living body. The head reacted to stimulation as in the living animal. In one of the operations death occurred during the decapitation and the artificial circulation could not be established until eight minutes later. The head was motionless for thirty minutes; then it responded to stimulation for one hour and a half.

Münchener medizinische Wochenschrift, Munich

76: 269-310 (Feb. 15) 1929

Causes of Xerostomia. H. Curschmann.—p. 269.
Pharmacologic Evaluation of Valerian. F. Haffner.—p. 271.
*Endothelial Reaction in Relation to Thrombosis. A. Dietrich.—p. 272.
*Rational Malaria Inoculation Therapy. W. Schellworth.—p. 274.
Therapeutic Value of Ovarian Preparations. W. Pösch.—p. 276.
Value of Massage in Treatment of Rheumatism. W. Ruhmann.—p. 278.
Determination of Relative Cardiac Dulness by Means of Grgurina's Finger Tip Percussion. F. Kirchner.—p. 280.
Significance of Cocci Found in Urethritis. M. Flesch.—p. 281.
Hypertrichiasis as Result of Hair Cutting. I. Mueller.—p. 281.
Comparison of Old and of Modern Methods in Obstetrics. E. Ceyer.—p. 282.
League of Nations and Irradiation Therapy. F. Voltz.—p. 284.

Endothelial Reaction in Relation to Thrombosis.—Dietrich sees in thrombosis a reactive process which is caused by a disturbance in the relation between the blood and the wall of the vessel, the change being either in the wall of the vessel or in the blood. The author points out that previously conducted research proved that the endothelium secretes fibrin in certain areas. These secretions are caused by a difference in reaction between the endothelium and the blood plasma, and in turn give rise to the thrombus. In collaboration with Schröder the author experimented on rabbits; they found that after preliminary treatment with bacteria or with indifferent albumin, the endothelium of the vessel showed an increased readiness for the attachment of substances. The result was the formation of a thrombus. Dietrich concludes that in man this increased sensitiveness of the endothelium may be due to various factors. He directs attention to the thrombus formations which frequently follow infectious diseases, particularly typhoid and scarlet fever.

Rational Malaria Inoculation Therapy.—Schellworth points out that the curative treatment with malaria is different from that with other remedies for the reason that a certain dosage cannot be specified. In order to make malaria inoculation less dangerous, to shorten the time necessary for the treatment, and to utilize its therapeutic value to the fullest extent, the author emphasizes the importance of: 1. A quick and final defervescence without recurrence and through this a shortening of the period of convalescence. 2. Immediate suppression of the attack of fever, in case of threatened complications for a short time, without a complete suppression of the malaria; that is, the application of a defervescent which makes it possible to regulate the fever as to degree and duration. The

author states that the first requirement has been almost fulfilled, while the second one has not been completely realized. He discusses the advantages and disadvantages of different defervescents, especially quinine and neoarsphenamine.

Strahlentherapie, Berlin

31: 213-414 (Jan. 19) 1929. Partial Index

Indications and Contraindications for Thalassotherapy. C. Häberlin.—p. 264.
Fifty Years' Experience with Thalassotherapy. R. Hertz.—p. 277.
*Ambulatory Treatment of Tuberculosis. E. Kisch.—p. 282.
*Irradiated Milk in Prophylaxis and Treatment of Rickets. K. Scheer.—p. 294.
*Irradiated Ergosterol in Prophylaxis of Rickets. A. Adam.—p. 310.
Ultraviolet Irradiation in Spasmophilia. F. Löning.—p. 313.
Experiences with Chromotherapy. F. Boerschmann.—p. 319.
*Light Treatment of Eye Diseases. A. Gutmann.—p. 322.
Measurement of Sunshine and Skyshine. R. Süring.—p. 325.
Measurement of Ultraviolet Ray with Cadmium Cell. A. Rüttenauer.—p. 349.
Recording of Heat Radiation of Sun and Sky. J. Georgi.—p. 368.
Ultraviolet Permeable Glass. F. Peemöller and F. Dannmeyer.—p. 379.
Solarization of Ultraviolet Permeable Window Glass. R. Suhrmann.—p. 389.

Ambulatory Treatment of Tuberculosis.—Kisch relates his experiences as originator and director of the Institute of Berlin for Patients with Bone and Joint Diseases. During and after the Great War there was an increase in the incidence of bone and joint tuberculosis in Berlin owing to insufficient nutrition. The city of Berlin, however, was financially able to provide permanent residence in its sanatoriums for only the most advanced cases. After three years of endeavor the author prevailed on the municipal government to build an institution for the ambulatory treatment of surgical tuberculosis. The result was the Institute of Berlin for Patients with Bone and Joint Diseases, of which Kisch was made director. The chief features of the institution are as follows: 1. It was constructed at a minimum expenditure of money. Only the central building, in which is located the rooms for physical examination and the roentgen department, is of the usual closed type. The rest of the buildings are long, shedlike structures with three walls and a roof and are completely open to the south. 2. The cost per patient of operating the institution is small. The patients (320 children and thirty adults) remain in the ambulatorium only from 8:30 a. m. to 5 p. m. On sunny days they are exposed almost nude to the sun all day. On cloudy days they are irradiated artificially for from twenty to thirty minutes. 3. The children are given instruction in an open-air school, so that when they are discharged they are able to reenter their respective classes in the public schools. 4. The patient's determination to get well is stimulated by encouragement from other members of the family during the time he spends at home. After seven years' experience with the method Kisch is convinced that the results obtained in the ambulatory treatment of bone and joint tuberculosis equal, and from some standpoints surpass, the results obtained in the sanatorium treatment.

Irradiated Milk in Treatment and Prophylaxis of Rickets.—Scheer has not observed any harmful effects following the feeding of milk irradiated with ultraviolet rays, even when it is given to premature babies. He demonstrated on guinea-pigs the efficacy of this form of treatment. He considers irradiated milk better than pure ergosterol preparations in the treatment of rickets because overdosage is impossible with the former, whereas with the latter it is not only possible but dangerous. He believes that ultraviolet irradiated milk will play an important rôle in the future in the prophylaxis as well as in the treatment of rickets.

Irradiated Ergosterol in Prophylaxis of Rickets.—Adam believes that the use of irradiated milk in the prophylaxis of rickets is not practical. He recommends for this purpose the use of milk to which irradiated ergosterol in oil emulsion or colloidal solution has been added; milk can be activated in this manner by the addition of only 0.001 Gm. of irradiated ergosterol per liter of milk. The method is simple, cheap and effective.

Light Treatment of Eye Diseases.—Gutmann describes a new lamp with which he has obtained good results in the ultraviolet treatment of chronic conjunctivitis and superficial diseases of the cornea.

Wiener Archiv f. innere Medizin, Vienna

16: 193-510 (Jan. 20) 1929. Partial Index

*Heart in Beriberi. W. C. Aalsmeer and K. F. Wenckebach.—p. 193.
*Decreased Irritability of Nerves and Muscles in Diabetes Mellitus. S. Marton.—p. 309.
*Cavernous Respiration in Bullous Emphysema of Lung. R. Fleckseder.—p. 325.
Extrasystole in Paroxysmal Tachycardia. E. Rosenblüth and H. Winterberg.—p. 333.
*Insulin Sensitiveness in Hyperthyroidism. E. Adler.—p. 343.
*Forms and Blood Picture of Influenza. R. Boller and S. Wassermann.—p. 355.
*Sinus Bradycardia. M. Winternitz and H. Selye.—p. 377.
Effect of Oxygen and Carbon Dioxide Inhalations on Erythrocyte Picture. F. Kerti and F. Stengel.—p. 381.
*Effect of Atropine, Epinephrine and Amyl Nitrite on Size of Heart. D. Scherf and E. Zdansky.—p. 399.
*Condition of Capillaries in Patients with Congenital Heart Lesions. W. Redisch and H. Rösler.—p. 463.
*Nervous Disturbances in Exudative Tuberculous Pleuritis. O. Satke.—p. 483.

Changes in Heart in Beriberi.—On the basis of a seven year study of beriberi in Java, Aalsmeer and Wenckebach state that cardiac symptoms are always present in this condition. They emphasize particularly the importance of this fact in the differential diagnosis between beriberi and other forms of polyneuritis. Diphtheria is the only other disease in which polyneuritis and such definite and typical cardiac changes are found together. In beriberi the heart sounds are unusually loud. Over the apex of the heart the systolic sound is rarely as loud as it is a little more medially and higher up; it is heard best in the fourth intercostal space at the edge of the sternum, and it is not conducted laterally as it is in lesions of the mitral valve. The systolic sound, however, does not reach a definite maximum at any point but passes almost imperceptibly into the pulmonary sound; a sharp differentiation between the maximum points of the pulmonary and the mitral sounds is therefore impossible. When a diastolic sound is present over the mitral valve, it never resembles the crescendo murmur heard in mitral stenosis. The systolic and diastolic sounds are often most distinct over the pulmonary orifice. The second pulmonary sound is accentuated but is never typically musical. In fact, none of the heart sounds have the sharp or low musical quality that they have in valvular lesions. The three most important characteristics of the heart in beriberi are: (1) the complete absence of pathologico-anatomic changes in the heart muscle; (2) the unchanged electrocardiogram; (3) the inefficacy of the classic cardiac drugs. The beriberi syndrome is characterized by weakness of the entire myocardium without permanent signs of left-sided insufficiency but with definite right-sided insufficiency with all its physical signs and resulting conditions; a very specific characteristic of the syndrome is the fact that all the circulatory signs disappear completely following the eating of food with a high content of vitamin B factor. The authors give the clinical picture of beriberi as follows: 1. Even in the early stages of beriberi the entire heart is enlarged. 2. The enlargement of the heart increases rapidly and is accompanied by decompensation of the right half. 3. The liver becomes much enlarged as a result of congestion, but the lungs remain normal. 4. No form of cardiac treatment produces much improvement. Even the best diuretics are ineffective. The eating of food with a high content of vitamin B factor, however, results in a rapid return of the heart to its normal function, form and size. To correlate these facts the authors advance the following hypothesis: Vitamin deficiency produces the symptoms of beriberi by causing a colloidal fixation of water in predisposed tissues.

Decreased Irritability of Nerves and Muscles in Diabetes Mellitus.—In tests on forty diabetic patients and thirty-one nondiabetic patients, Marton found that the motor irritability of diabetic patients is on the average much less than the motor irritability of nondiabetic patients of the same weight and age. In both diabetic and nondiabetic patients it is inversely proportional to the patients' weight and age. In diabetes mellitus the motor irritability is inversely proportional to the blood sugar level and to the duration of the disease. Patients with ketonuria and with nervous or muscular disturbances have a lower motor irritability than patients without such disturbances.

Cavernous Respiration in Bullous Emphysema of Lung.—Fleckseder gives the case reports of three patients in the

physical examination of each of whom cavernous respiration was found over a part of the lung. The postmortem examination of all three patients, however, revealed nothing but bullous emphysema to account for the amphoric breathing.

Sensitiveness of Patients with Hyperthyroidism to Insulin.—Adler found no appreciable difference in the sensitiveness to insulin of eight normal persons and of fifteen persons with hyperthyroidism.

Forms and Blood Picture of Influenza.—Boller and Wassermann describe three forms of influenza: the initial or abortive form, the bronchial form and the pneumonic form. Between the bronchial and the pneumonic forms are various transitional forms in which the clinical symptoms and the blood picture are the same as in the bronchial form. The authors believe that the leukopenia is an expression of the virulence of the infection but that it is of no importance in the prognosis. A high leukocyte count suggests a complicating suppuration. A lymphocyte count much below normal is of bad prognostic import.

Sinus Bradycardia.—Winternitz and Seyle report a case of sinus bradycardia (from forty-three to forty-seven beats a minute) in a man, aged 62; at necropsy one of the arteries in the sino-auricular node was found to be thrombosed. The authors believe that reactive anatomic changes in the sino-auricular node which were produced by the thrombosis of the artery caused the permanent sinus bradycardia.

Changes in Size of Heart Following Administration of Atropine, Epinephrine and Amyl Nitrite.—In roentgenologic examinations of the heart of normal persons before and after the administration of various drugs, Scherf and Zdansky found that: 1. The intravenous injection of 0.002 Gm. of atropine caused a decrease in both the systolic and the diastolic diameters of the heart. 2. The intravenous injection of 0.05 cc. of a 1 per cent solution of epinephrine resulted in a decrease in the size of the heart in 50 per cent of the persons examined. In none of the persons was enlargement of the heart observed, despite the fact that the blood pressure of one of them rose to 210 mm. mercury. The authors explain the fact that the heart of some of the patients diminished in size following the administration of epinephrine by assuming that the positive inotropic action of the drug exceeded the tendency of the increased blood pressure to dilate the heart. 3. The inhalation of amyl nitrite was also followed by a definite diminution in the size of the heart.

Condition of Capillaries in Patients with Congenital Heart Lesions.—In thirty-six patients with congenital lesions, Redisch and Rösler found intense capillary hyperemia involving particularly the venous arm of the capillary. They also noted a tendency of the capillary current to stasis, and the formation of new capillaries. They designate the condition as congenital dilatation of the capillaries and believe that it is the cause of the blueness of the skin and mucous membranes of patients with congenital heart lesions.

Nervous Disturbances in Exudative Tuberculous Pleuritis.—Satke noted nervous disturbances in eleven out of forty patients with exudative tuberculous pleuritis. From the fact that these disturbances appeared during the resorption of the exudate and were of short duration, he believes that they are to be considered as toxic manifestations.

Wiener klinische Wochenschrift, Vienna

42: 193-224 (Feb. 14) 1929

Percutaneous Immunization. E. Löwenstein.—p. 193.
*Treatment of Tuberculosis with Living Tubercle Bacilli. A. Kutschera-Aichbergen.—p. 197.
Differential Diagnosis of Carcinoma of Head of Pancreas. K. Narbeshuber.—p. 200.
Osteomalacia in the Male: Effective Treatment with a Vitamin Preparation and Quartz Lamp Irradiation. J. Goldstein.—p. 202.
Psychotherapy. E. Raimann.—p. 204.
Urgent Operations on Intestine. J. Schnitzler.—p. 208. C'cn.
*Endothelioma in Oral Cavity. L. Falta.—p. 210.
*Prophylaxis of Nocturnal Cramps in Calf of Leg. G. Gaertner.—p. 211.

Treatment of Tuberculosis with Living Tubercle Bacilli.—Twenty-two patients suffering from tuberculosis were treated by Kutschera-Aichbergen with living tubercle bacilli. At first he employed the inunction method according to Moeller's suggestion; later he gave subcutaneous injections. The author never observed dangerous complications. He gives a detailed report of six cases. The number of vaccinations for each patient varied from three to fourteen. In some cases they were given at intervals of from eight to fourteen days; in other instances the intervening periods were from four to eight weeks. A gradual retrogression of the symptoms, increase in weight and improvement in the general condition were observed in all the patients. Kutschera-Aichbergen states that this method is of great value, particularly in the treatment of older persons.

Endothelioma in Oral Cavity.—Falta reports five cases of endothelioma of the mouth. He observed that these tumors generally develop without causing much pain. The disturbance is only local. Occasionally they metastasize to the regional lymph nodes. This occurs, however, only in the later stages and in the malignant variety. For a clear diagnosis of endothelioma and to differentiate these tumors from carcinoma, Falta advises histologic examination. He regards extirpation as the most effective treatment.

Prophylaxis of Nocturnal Cramps in Calf of Leg.—Personal experience led Gaertner to assume that nocturnal cramps in the calf muscles are due to lack of water in the organism. Therefore, he concluded that drinking a larger amount of water would prevent these cramps. In his own case, as well as in three other persons, he proved that this assumption was correct. The cramps disappeared after a larger quantity of water had been drunk.

Zeitschrift f. d. ges. experimentelle Medizin, Berlin

64: 295-582 (Feb. 18) 1929

Intermediary Metabolism of Levulose and of Dextrose. F. Bertram.—p. 295.
Determination of Minute Volume of Heart. H. Schwarz and F. Schimmer.—p. 303.
*Effect of Blocking of Reticulo-Endothelial System on Blood Sugar Level. E. J. Sterkin and E. L. Kerner-Poschenjan.—p. 311.
*Action of Nicotine on Heart. A. S. Ssalischtschef and J. A. Tschernogoroff.—p. 319.
*Function of Spleen in Blood Transfusion. J. Weicksel.—p. 336.
Drainage of Subarachnoidal Space. G. Iwanow.—p. 356.
*Rôle of Thyroid in Hunger Movements of Digestive Tract. A. Kratinoff.—p. 376.
Hunger Movements of Stomach in Experimental Hypothyroidism. A. G. Kratinoff and P. N. Kratinoff.—p. 397.
Effect of Choline on Hunger Movements of Stomach. A. Kratinoff.—p. 404.
Effect of Choline on Hunger Movements of Crop in Birds. P. Kratinoff.—p. 413.
*Effect of Truneček's Serum on Calcium Content of Blood. W. Wasjutotschkin and M. Rybina.—p. 417.
*Effect of Rarefied Air on Erythrocyte Count and Hemoglobin Content of Blood. G. Giannini.—p. 431.
Brain Puncture Leukocytosis. G. Rosenow.—p. 452.
*Effect of Magnesium Chloride on Retraction of Blood Clot. O. Tezner.—p. 462.
*Antidotes for Respiratory Paralysis in Spinal Anesthesia. H. Hilarowicz and M. Szajna.—p. 470.
Variations in Alkali Reserve and Chloride Content of Blood During Digestion. S. Prikladowizky and M. Brestkin.—p. 494.
"Thermoresistance" of Erythrocytes. A. Egoroff.—p. 506.
Effect of Electrolysis of Urine on Its Reduction Index. H. Hummel.—p. 516.
Glycolysis in Cerebrospinal Fluid. O. J. Nielsen.—p. 522.
*Daily Variations in Epinephrine Action. M. Lanwer-de Haan.—p. 534.
Potentiometric and Colorimetric Determination of Hydrogen Ion Value in Serum. H. Schreus and K. Schulze.—p. 540.
Relations Between Breathing and Blood Pressure and Periodic Activity of Digestive Tract. N. P. Nechoroschew.—p. 553.
Effect of Periodic Activity of Digestive Tract on Passage of Stomach Contents into Intestine. N. P. Nechoroschew.—p. 558.
Increased Potassium and Calcium Contents of Blood in Histamine Shock. G. Kuschinsky.—p. 563.
Acceleration of Erythrocyte Sedimentation by Substances in Pathologic Body Fluids. H. Wiedemann.—p. 569.

Effect of Blocking of Reticulo-Endothelial System on Blood Sugar Level.—In experiments on dogs, Sterkin and Kerner-Poschenjan found that blocking of the reticulo-endothelial system did not have a constant effect on the blood sugar level.

Action of Nicotine on Heart.—In an electrocardiographic analysis of the action of nicotine on the heart of rabbits, Ssalischtschef and Tschernogoroff found that: 1. Nicotine in 0.00005 Gm. doses produces no changes in the electrocardiogram. 2. In 0.0001 Gm. doses it decreases the rapidity of the heart beat. 3. With 0.0005 Gm. doses this retardation is more marked and the nomotopic rhythm becomes heterotopic. 4. A degree of ether narcosis which in normal rabbits would have no effect

on the cardiovascular function results in previously nicotinized animals in pronounced disturbances in cardiac rhythm and in death. 5. The changes in the electrocardiogram produced by nicotine are due to its action on the ganglions of the sympathetic nervous system. 6. Previous atropinization does not prevent the action of nicotine on the heart. The authors, however, were unable to demonstrate a complete analogy between the acute nicotine intoxication produced experimentally in animals with the pure alkaloid and the subacute intoxication produced in man by the substances in tobacco smoke.

Function of Spleen in Blood Transfusion.—Weicksel noted that blood transfusion in splenectomized dogs with artificial anemia did not give as good results as it did in non-splenectomized dogs. In an attempt to account for this difference, he brought the spleen of two of the anemic dogs out through an incision in the abdominal wall and then performed a blood transfusion on the animals; a very noticeable increase in the volume of both spleens was noted. From these experiments the author draws the conclusion that in blood transfusion the spleen acts as a blood reservoir.

Rôle of Thyroid in Hunger Movements of Digestive Tract.—Kratinoff gives experimental evidence supporting his theory that the thyroid gland plays an important rôle in the mechanism of hunger movements of the digestive tract.

Effect of Truneček's Serum on Calcium Content of Blood.—Wasjutotschkin and Rybina report that the subcutaneous administration of Truneček's serum in rabbits is followed by a decrease in the calcium content of the blood. They believe that this observation explains the value of the serum in the treatment of arteriosclerosis.

Effect of Rarefied Air on Erythrocyte Count and Hemoglobin Content of Blood of Normal and of Splenectomized Animals.—Giannini found that rarefaction of the air they breathed was followed by a much smaller increase in the number of erythrocytes in splenectomized rats, guinea-pigs and rabbits than it was in normal animals. Both the absolute and the relative increase of hemoglobin, on the contrary, was greater following splenectomy.

Effect of Magnesium Chloride on Retraction of Blood Clot.—Tezner states that magnesium chloride was the only one of various salts studied that increased the retraction of the blood clot; this action occurred even in blood from patients with thrombopenia.

Antidotes for Respiratory Paralysis in Spinal Anesthesia.—For stimulation of the respiratory centers in spinal anesthesia, Hilarowicz and Szajna recommend the addition of potassium chloride to the anesthetizing solution; in addition to its favorable action on the respiratory centers, it increases the effectiveness of the anesthetic. They also point out the objectionable features of the intradural administration of caffeine, atropine, lobeline and strychnine.

Daily Variations in Epinephrine Action.—Lanwer-de Haan states that in the same person the action of epinephrine is definitely more intense in the morning than it is in the afternoon and evening. A variation in the sensitiveness of man to a tested, chemical substance has not been observed in connection with any other drug.

Zentralblatt für Gynäkologie, Leipzig

53: 321-384 (Feb. 9) 1929. Partial Index

Diagnosis and Treatment of Chronic Fibrous Periurethritis in Women. L. Nürnberger.—p. 322.
Absence of Urethra with Incontinence in Women. L. Fraenkel.—p. 333.
*Goebell's Operation for Enuresis. H. Cramer.—p. 342.
Operation for Cure of Fistula in Large Defects of Urethra. R. Joachimovits.—p. 347.
*Operation for Large Vesicovaginal Fistula. W. Zangemeister.—p. 352.
Dangerous Effects of Pilocarpine in Postpartum and Postoperative Retention of Urine. K. Mayer.—p. 354.
*Late Injuries of Urinary Bladder Caused by Radium Therapy. P. H. Rulle.—p. 357.
Cystoscopic Appearance of Vesicovaginal Fistula. B. Ottow.—p. 360.
Calculus in Ureterovaginal Fistula. K. Kaiser.—p. 363.
Ligation of Ureter. D. Maluschew.—p. 365.

Goebell's Operation for Enuresis.—Cramer reports his results with Goebell's operation, which he performed ten times. The author believes that the result of the operation depends on the maneuver by which the upper part of the urethra and the lower part of the neck of the bladder are grasped from the back and pulled upward and forward by a loop which is fixed to the fascia of the anterior abdominal wall. In a case of complete incontinence in a multipara, the author used the round ligament for making the loop. He reports some changes in the original operation. After the abdominal fascia has been split above the symphysis (Pfannenstiel) for about 3 inches, the skin and fat layer are separated from the fascia and a flap is detached from the muscles. Then the fascia is split between the pyramidalis and the symphysis exactly in the midline, thus forming two rectangular flaps from which a strip 2 cm. wide is cut on each side. These two fascial flaps are strong, being strengthened in the lower part by the pyramidalis muscle. This modification of Goebell's operation proved to be very successful and the author recommends it especially for operation in men.

Operation for Large Vesicovaginal Fistula.—Zangemeister operated on a woman, six weeks after delivery, whose entire urethra was missing, together with all of the floor of the bladder and most of the lateral walls, as a result of a difficult labor. The portion containing the ureteral openings was intact. The vagina was firmly fixed laterally by strong scar tissue. The author succeeded in constructing a new bladder and urethra from the normal part of the vaginal wall and strips of the rectus fascia.

Fistula of Bladder After Radium Therapy.—Rulle's patient developed a fistula seven years after the first and six years after the last irradiation. The author believes that the reason for the rare reports (only one case is on record) of this complication is that most of these patients (from 60 to 70 per cent) die within five years from a recurrence and about 10 per cent from intercurrent diseases.

Nederlandsch Maandschrift v. Geneeskunde, Leyden

15: 387-450, 1929

*Formation of Porphyrin. A. A. H. van den Bergh and A. J. Hyman. —p. 387.
*Cause of Pregnancy Toxicosis. P. C. T. van der Hoeven.—p. 395.
Blood Transfusion in Treatment of Infantile Atrophy (Decomposition). W. A. Kop.—p. 415.
Hyperglobulinemia and Hypoglobulinemia. J. Munk.—p. 432.

Formation of Porphyrin.—Van den Bergh and Hyman conclude from their researches that porphyrin, which is formed in every normal person under physiologic conditions, is derived in all probability from the hemoglobin of the red blood corpuscles. The same is true of the abnormally large amount of porphyrin that develops in certain diseases (cancer, typhoid and tuberculosis with high fever), and in lead poisoning. In all these conditions, the porphyrin does not enter the blood plasma until a considerable quantity of it has formed. An explanation for the origin of the large quantities of porphyrin occurring in congenital porphyrinuria has not yet been found; nor is the question solved as to where the porphyrin formation (from hemoglobin) takes place. However, the large quantities that were found in the bile (also in congenital prophyrinuria) permit the assumption that the liver plays a part in prophyrin formation.

Cause of Pregnancy Toxicosis.—Van der Hoeven recalls that in pregnancy the work of the organs of metabolism is much increased. In addition to the endogenous exchange occurring in the cells of the mother, there is the exchange of the child and of the adnexa. What the placenta does with the fetal metabolism products is unknown. If the organs of metabolism are unequal to the greater task, the toxic metabolic products circulating in the blood are not neutralized and carried off and may exert a harmful influence on the organism. Such a disturbance may come from either of two directions: (1) when the influx of metabolic waste products increases and becomes too great to be carried off or when the toxicity of such products is increased; (2) when the organs of metabolism from the start are weaker than normal; when the hyperplasia of the organs of metabolism necessary for pregnancy is not forthcoming, or when such organs become poisoned by the metabolism products and cease to function properly. The larger the fetus becomes, the greater the amount of metabolic waste products; hence, the burden on the organs of metabolism of the mother is constantly increasing up to the end of the term.